BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation"), COMMISSION REGULATION (EU) No 453/2010 and REGULATION (EC) No 1272/2008 (CLP)

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/ UNDERTAKING

gulationuct identifier

P Product name:	SOLGAD 150
Chemical name:	Hydrocarbons, C10, aromatics, >1% naphthalene
Synonyms :	
Trade Name:	SOLGAD-150
Chemical formula:	Not available – UVCB substance.
Product type:	Aromatic Hydrocarbons
CAS number:	N\A
EC number:	919-284-0
REACH registration no(s):	**01-2119463588-24-0007**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Intended Use: Solvent

Identified Uses:

Manufacturing of Substance
Distribution of Substance
Formulation and (Re)packing of Substances and Mixtures
Use in Coatings
Use in Cleaning Agents
Use in Oil and Gas Field Drilling and Production
Lubricants
Metalworking Fluids
Use as Binders and Release Agents
Use in Agrochemicals
Use as a Fuel
Functional Fluids
Road and Construction Application
Use in Laboratories
Polymer Processing
Water Treatment Chemicals
Mining Chemicals

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer: GADIV PETROCHEMICAL INDUSTRIES Ltd.

P.O.B 32 HAIFA

Tel: +972-4-8788020
Fax: +972-4-8788018
E-mail: Gadiv@bazan.co.il

E-mail address of person responsible for this SDS: telena@bazan.co.il

1.4 Emergency telephone number

Emergency telephone number (including hours of operation): +972-4-8788512

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP/GHS)

Aspiration Toxicity, Category 1
Carcinogenicity, Category 2
Aquatic Chronic, Category 2
Specific target organ toxicity-single exposure, Category 3

Classification according to Directive 67/548/EEC (DSD) or 1999/45/EC

Carc. Cat. 3; R40: Limited evidence of a carcinogenic effect
N; R51/53: Dangerous for the environment; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Xn; R65: Harmful: may cause lung damage if swallowed
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapours may cause drowsiness and dizziness

2.2 Label elements

Labeling in accordance with Regulation 1272/2008 (CLP)

Hazard pictograms:

Signal word: Danger

Hazard statements:

H304: May be fatal if swallowed and enters airways.
H336: May cause drowsiness or dizziness.
H351: Suspected of causing cancer
H411: Toxic to aquatic life with long lasting effects.
EUH066: Repeated exposure may cause skin dryness or cracking.

Precautionary Statements:
P261: Avoid breathing mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P281: Use personal protective equipment as required.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P331: Do NOT induce vomiting.
P391: Collect spillage.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

Labeling in accordance with Directive 67/548/EEC (DSD) or 1999/45/EC

Xn – harmful N - dangerous for the environment

2.3 Other hazards:

Does not meet the criteria for PBT or vPvB.
Material can accumulate static charges which may cause an ignition.
May be irritating to the eyes, nose, throat, and lungs.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Description of the substance: A complex and variable combination of aromatic hydrocarbons (UVCB) having a carbon number range predominantly of C10 and boiling in the range of approximately 160˚C to 230˚C.

Component	Identifiers	%	EU Classification	GHS Classification
Hydrocarbons, C10, aromatics, >1% naphthalene	CAS number: N\A EC number: 919-284-0 REACH registration no(s): 01-2119463588-24-0007	100	Car. Cat. 3; R40, N; R51/53, Xn; R65, R66, R67	Asp. Tox. 1; H304 Carc. 2; H351 Aquatic Chronic 2; H411 STOT SE 3; H336 EUH066

Additional Information:

Component	Identifiers	%	EU Classification	GHS Classification
Naphthalene	CAS number: 91-20-3 EC number: 202-049-5 REACH registration no(s): N/A	3% - 5%	Xn; R22, Xn; R40, N; R50/53	Acute Tox. 4; H302 Carc. 2; H351 Aquatic Chronic 1; H410

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.
See section 16 for the full text of the H-statements and R-phrases declared above.

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation:
Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device, or use mouth-to-mouth resuscitation.

Skin contact:
Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

Eye contact:
Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion:
Seek immediate medical attention. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Acute health effects: drowsiness, dizziness, nausea, skin irritation.
Delayed effects: N/A.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician: If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

Section 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Appropriate extinguishing media: Use water fog, foam, dry chemical or carbon dioxide (CO_2) to extinguish flames.
Inappropriate extinguishing media: Straight streams of water.

5.2 Unusual fire hazards arising from the substance or mixture

Hazardous material. Firefighters should consider protective equipment.
Hazardous combustion products: Smoke, Fume, Incomplete combustion products, Oxides of carbon.

5.3 Fire Fighting Instructions

Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.
Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Notification Procedure

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

6.2 Protective Measures

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material

6.3 Spill Management

Land Spill: Stop leak if you can do so without risk. Do not touch or walk through spilled material. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with a suitable absorbent

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken .

6.4 Environmental Precautions

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.5 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Prevention of user exposure: Avoid breathing mists or vapours. Avoid contact with skin. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard.

Prevention of fire and explosion: Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a non- conductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter), and is considered a semi-conductive, static accumulator, if its conductivity is below 10,000 pS/m. Whether a liquid is non-conductive or semi-conductive, the precautions are the same. A number of factors, for example: liquid temperature, presence of contaminants, anti-static additives and filtration, can greatly influence the conductivity of a liquid.

Precautions while moving the product:

Loading/Unloading Temperature: [Ambient]
Transport Temperature: [Ambient]
Transport Pressure: N/D

7.2 Conditions for safe storage, including any incompatibilities

Technical measures: The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer

containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

Storage Temperature: [Ambient]

Storage Pressure: 101 kPa (15 psia)

Suitable Containers / Packing: Tank Trucks; Railcars; Barges; Drums.

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Polyester; Teflon; Polyvinyl Alcohol (PVA).

Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Ethylene-proplyene-diene monomer (EPDM); Polystyrene; Polyethylene; Polypropylene; Polyacrylonitrile.

7.3 Specific end use(s):

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values:

Recommended occupational and consumer exposure limit values (following from the preformed CSA):

Derived No Effect Level (DNEL)

Exposure pattern	Route	Workers	General population
Long-term – systemic effects	Oral	N/A	7.5 mg/kg bw/day
Long-term – systemic effects	Dermal	12.5 mg/kg bw/day	7.5 mg/kg bw/day
Long-term – systemic effects	Inhalation	151 mg/m³	32 mg/m³

8.2 Exposure controls

Engineering Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment. Adequate ventilation should be provided whenever the material is heated or mists are generated.

Personal Protection

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage .

Respiratory protections: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator, Type A filter material.

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Skin protection

Hand protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves.

The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. Nitrile rubber is suitable. CEN standards EN 420 and EN 374, provide general requirements and lists of glove types.

Skin and body protection (other than the hands): Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: chemical / oil resistant clothing is recommended.

Eye protection: If contact is likely, safety glasses with side shields are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Molecular weight (average):	134.0
Appearance:	Clear liquid
Odour:	pungent
Odour threshold:	N/A
pH:	Not available
Melting point/Freezing point:	-18 deg C
Pour point:	< -10 deg C (according to ASTM D 5950).
Boiling range:	160-230 deg C (according to ASTM D 86).
Flash point, PMCC:	> 62 deg C
Evaporation rate:	N/A
Flammability (solid, gas):	Flammability range is 0.6 to 7.0% v/v (calculated).
Upper/lower flammability or explosive limits:	upper 7%, lower 0.6%
Vapor pressure:	0.06 kPa (at 20 deg C, calculated).
Vapor density (air=1):	>1
Auto-ignition temperature:	> 400 deg C.
Decomposition temperature:	Not available
Explosive properties:	Not applicable.
Oxidizing properties:	Not applicable.
Water Solubility:	Insoluble
Partition coefficient Octanol/Water:	Not applicable
Relative Density:	0.80 – 1.00 g/cm3 (at 15 º C). Typical value: 0.886 (20 ºC).
Viscosity:	0.8 to 2.0 mm^2/s (at 20 ºC, ASTM D 7042). Typical value: 0.92 mm^2/s (at 25 ºC).
Surface tension:	29 to 32 mN/m (at 25 ºC, according to Wilhelmy plate testing methodology).

Section 10: STABILITY AND REACTIVITY

10.1 Chemical stability

Material is stable under normal conditions of use and storage.

10.2 Conditions to avoid

Avoid open flames and high energy ignition sources.

10.3 Materials to avoid

Strong oxidizers.

10.4 Hazardous Decomposition products

Material does not decompose at ambient temperatures.

10.5 Hazardous polymerization

Will not occur.

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Test	Species	Dose
Hydrocarbons, C10, aromatics, >1% naphthalene	LD50, Oral	Rat (male)	6318 mg/kg
	LC50, Inhalation (4h)	Rat (male)	>4688 mg/m3
	LD50, Dermal	Rabbit (male)	>2000 mg/kg

Skin corrosion/irritation: Not irritating.

Serious eye damage/irritation: Not irritating.

Respiratory or skin sensitization: Not sensitizing.

Carcinogenicity: Limited evidence of a carcinogenic effect.

Mutagenicity: All genetic toxicity tests, both in vitro and in vivo, were negative.

Reproductive toxicity: Findings do not warrant classification of C10-C12 Aromatics fluids as a reproductive or developmental toxin under the new Regulation (EC) 1272/2008 on classification, labeling and packaging of substances and mixtures (CLP) or under the Directive 67/548/EEC for dangerous substances and Directive 1999/45/EC for preparations.

Specific target organ toxicity (single exposure): STOT Single Exp. 3 :May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): N/A

Aspiration hazard: Aspiration Toxicity 1; May be fatal if swallowed and enters airways

Other effects: No data available

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Substance name	Toxicity to fish	Toxicity to crustaceans	Toxicity to algae	Toxicity to other aquatic plants	Other toxicity data (birds, bees, plants etc.)
Hydrocarbons, C10, aromatics, >1% naphthalene	LL50 (96 h): >= 2 — <= 5 mg/L test mat. LL50 (96 h): 14 mg/L test mat.	Daphnia magna: NOELR (21 d): 0.851 mg/L test mat. (based on: reproduction)	EL50 (72 h): > 1 — < 3 mg/L test mat. (nominal) (based on: biomass) EL50 (72 h): > 1 — < 3 mg/L test mat. (based on: growth rate)	N/A	N/A

12.2 Persistence and Degradability

The substance is readily biodegradable

12.3 Bioaccumulative potential

No measured values available for bioaccumulation.

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

Does not meet the criteria for PBT or vPvB.

12.6 Other adverse effects

Not available.

Section 13: DISPOSAL CONSIDERATIONS

13.1 Waste disposal

Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal .

Disposal recommendation: Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products .

Regulatory Disposal Information: European Waste Code: 08 XX XX

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

13.2 Disposal of contaminated packaging

Disposal recommendation: Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should

be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations.

DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Section 14: TRANSPORT INFORMATION

14.1 Land Transportation (ADR/RID)

UN number: 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S
Chemical name: Alkyl (C3-C5) benzenes
Hazard class: 9
Classification code: M6
Packing group: III
ADR/RID-Labels: 9, EHS
Hazchem code: 3Z
Description: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S (NAPHTHALENE), 9, PG III

14.2 Inland Waterway Transport (ADN(R))

UN number: 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S
Chemical name: Alkyl (C3-C5) benzenes
Hazard class: 9
Classification code:
Packing group: III
Hazard labels: 9 (N2, F), EHS
Description: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S (NAPHTHALENE), 9, (N2, F), PG III, D15=0.90 Kg/dm3

14.3 Marine Transport (IMDG)

UN number: 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S
Chemical name: C10 Aromatic Hydrocarbons
Hazard class: 9
Packing group: III
EmS number: F-A, S-F
Labels: 9
Environmental Hazard: Marine Pollutant

Description: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S (NAPHTHALENE), 9, PG III, MARINE POLLUTANT

14.4 Air Transport (ICAO/IATA)

UN number: 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S
Chemical name: C10 Aromatic Hydrocarbons
Hazard class: 9
Packing group: III
Labels: 9, EHS
Description: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S (NAPHTHALENE), 9, PG III

Section 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use

EU Regulation (EC) No.1907/2006 (REACH)

EU Regulation (EC) No 1272/2008 (CLP)

15.2 Chemical safety assessment

In accordance with REACH article 14, a Chemical Safety Assessment has been carried out for this substance.

Section 16: OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3:

R22 – Harmful if swallowed.
R40 - Limited evidence of a carcinogenic effect
R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65 - Harmful: may cause lung damage if swallowed
R66 - Repeated exposure may cause skin dryness or cracking
R67 - Vapours may cause drowsiness and dizziness

SOLGAD 150

December, 2016, Version 06

Safety phrases:

S23 - Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer)
S24 - Avoid contact with skin
S36/37 - Wear suitable protective clothing and gloves
S57 - Use appropriate container to avoid environmental contamination
S60 - This material and its container must be disposed of as hazardous waste
S62 - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

Full text of Hazards Statements referred to in sections 2 and 3:

H227: Combustible liquid.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H336: May cause drowsiness or dizziness.
H351: Suspected of causing cancer
H410: Very toxic to aquatic life with long lasting effects.
H411: Toxic to aquatic life with long lasting effects.

Additional labeling requirements (CLP supplemental hazard statement):

EUH066: Repeated exposure may cause skin dryness or cracking.

Precautionary Statements:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P281: Use personal protective equipment as required.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P331: Do NOT induce vomiting.
P391: Collect spillage.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to chemical wastes.

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Training advice: Before using/handling the product one must read carefully present MSDS.

Recommended restriction: N/A

Key Legend Information:

ACGIH- American Conference of Governmental Industrial Hygienists
OSHA- Occupational Safety and Health Administration
NTP- National Toxicology program
IARC- International Agency for Research on Cancer
ND- Not Determined
N/A - Not available
R-phrases- Risk phrases
S-phrases- Safety phrases
H-statements – Hazard statements
P-statements – Precautionary statements
UVCB - Substances of Unknown or Variable composition, Complex reaction products or Biological materials

Date of issue: 22/12/2016

Version no. 6

To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

ANNEX

EXPOSURE SCENARIO

Manufacture of Substance – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 8a, 8b, 15 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	1, 4
Specific Environmental Release Category	ESVOC 1.1.v1
Processes, tasks, activities covered	
Manufacture of the substance or use as an intermediate or process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions (*only required controls to demonstrate safe use listed*)**
General exposures (closed systems) [CS15] PROC1	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system[E47]

General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system[E47]
General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]
Process sampling [CS2] PROC8b	No specific measures identified[EI18]
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Bulk transfers[CS14](open systems)[CS108] PROC8b	No specific measures identified[EI18]
Bulk transfers[CS14](closed systems)[CS107] PROC8b	Handle substance within a closed system[E47]
Equipment cleaning and maintenance [CS39] PROC8a	Drain down and flush system prior to equipment break-in or maintenance [E55]
Material storage[CS67] PROC1	Store substance within a closed system[E84]
Material storage[CS67] PROC2	Store substance within a closed system[E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	9.5e3
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	9.5e3
Maximum daily site tonnage (kg/day)	9.5e4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	100
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-4
Release fraction to soil from process (initial release prior to RMM)	1.0e-4
Technical conditions and measures at process level (source) to prevent release	

Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	74.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	4.4e5
Assumed domestic sewage treatment plant flow (m^3/d)	10000
Conditions and measures related to external treatment of waste for disposal	
During manufacturing no waste of the substance is generated [ETW4].	
Conditions and measures related to external recovery of waste	
During manufacturing no waste of the substance is generated [ERW2].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4]. Scaled assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file – "Site-Specific Production" worksheet [DSU6].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Distribution of Substance – Industrial

Section 1 Exposure Scenario Title	
Title	
Distribution of Substance – Industrial GES 1A.1	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 8a, 8b, 9, 15 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	1, 2, 3, 4, 5, 6, 7
Specific Environmental Release Category	ESVOC 1.1b.v1
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, maintenance and associated laboratory activities. Excludes emissions during transport.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions (*only required controls to demonstrate safe use listed*)**
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems)	Handle substance within a closed system [E47]

[CS15] PROC3	
General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]
Process sampling [CS2] PROC3	No specific measures identified[EI18]
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Bulk transfers [CS14](closed systems) [CS107] PROC8b	No specific measures identified[EI18]
Bulk transfers [CS14](open systems) [CS108] PROC8b	No specific measures identified[EI18]
Drum and small package filling [CS6] PROC9	No specific measures identified[EI18]
Equipment cleaning and maintenance [CS39] PROC8a	Drain down and flush system prior to equipment break-in or maintenance [E55]
Material storage [CS67] PROC1	Store substance within a closed system [E84]Transfer via enclosed lines [E52]
Material storage [CS67] PROC2	Store substance within a closed system [E84]Transfer via enclosed lines [E52]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.5e2
Fraction of Regional tonnage used locally	6.8e-3
Annual site tonnage (tonnes/year)	1.0
Maximum daily site tonnage (kg/day)	5.0e1
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0e-4

Release fraction to wastewater from process (initial release prior to RMM)	1.0e-5
Release fraction to soil from process (initial release prior to RMM)	1.0e-5
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.4e4
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2].	

Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Formulation & (Re)packing of Substances and Mixtures – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	2
Specific Environmental Release Category	ESVOC 2.2.v1
Processes, tasks, activities covered	
Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletization, extrusion, large and small scale packing, maintenance, sampling and associated laboratory activities	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]
General exposures (open systems)	No specific measures identified[EI18]

[CS16] PROC4	
Batch processes at elevated temperatures [CS136]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC3	Provide enhanced mechanical ventilation by mechanical means [E48]Formulate in enclosed or ventilated mixing vessels [E46]
Process sampling [CS2] PROC3	Avoid dip sampling. [E42]
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Bulk transfers [CS14] PROC8b	No specific measures identified[EI18]
Mixing operations (open systems) [CS30] PROC5	No specific measures identified[EI18]
Manual [CS34]Transfer from/pouring from containers [CS22] PROC8a	Provide extract ventilation to points where emissions occur [E54]Use drum pumps or carefully pour from container [E64]
Drum/batch transfers [CS8] PROC8b	Use drum pumps or carefully pour from container [E64]
Production or preparation or articles by tabletting, compression, extrusion or pelletisation [CS100] PROC14	No specific measures identified[EI18]
Drum and small package filling [CS6] PROC9	No specific measures identified[EI18]
Equipment cleaning and maintenance [CS39] PROC8a	No specific measures identified[EI18]
Material storage [CS67] PROC1	Store substance within a closed system [E84]Transfer via enclosed lines [E52]
Material storage [CS67] PROC2	Store substance within a closed system [E84]Transfer via enclosed lines [E52]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	7.0e1
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	7.0e1
Maximum daily site tonnage (kg/day)	7.0e3

Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	10
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (*after typical onsite RMMs, consistent with EU Solvent Emissions Directive requirements*)	1.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	2.0e-4
Release fraction to soil from process (initial release prior to RMM)	1.0e-4
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.3e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management	

measures are adopted.[G8]
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Uses in Coatings – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC 4.3a.v1
Processes, tasks, activities covered	
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15]with sample collection [CS56]Use in contained systems [CS38] PROC2	Handle substance within a closed system [E47]
Film formation - force drying (50 - 100°C). Stoving (>100°C). UV/EB	Handle substance within a closed system [E47]

radiation curing [CS94]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC2	
Mixing operations (closed systems) [CS29]General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]
Film formation - air drying [CS95] PROC4	No specific measures identified[EI18]
Preparation of material for application [CS96]Mixing operations (open systems) [CS30] PROC5	No specific measures identified[EI18]
Spraying (automatic/robotic) [CS97] PROC7	Carry out in a vented booth provided with laminar airflow [E59]
Manual [CS34]Spraying [CS10] PROC7	Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Material transfers [CS3] PROC8a	Provide extract ventilation to points where emissions occur [E54]Clear transfer lines prior to de-coupling [E39]
Material transfers [CS3] PROC8b	Clear transfer lines prior to de-coupling [E39]
Roller, spreader, flow application [CS98] PROC10	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Dipping, immersion and pouring [CS4] PROC13	Provide extract ventilation to points where emissions occur [E54]Avoid manual contact with wet work pieces [EI17]
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Material transfers [CS3]Drum/batch transfers [CS8]Transfer from/pouring from containers [CS22] PROC9	No specific measures identified[EI18]
Production or preparation or articles by tabletting, compression, extrusion or pelletisation [CS100] PROC14	No specific measures identified[EI18]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1

Regional use tonnage (tonnes/year)	3.7e2
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	3.7e2
Maximum daily site tonnage (kg/day)	1.9e4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	9.8e-2
Release fraction to wastewater from process (initial release prior to RMM)	7.0e-4
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	89.1
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	3.8e4
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	

Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Uses in Coatings – Professional

Sect5ion 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.3b.v1
Processes, tasks, activities covered	
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
Filling / preparation of equipment from drums or containers. [CS45] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15]Use in contained systems [CS38]	Handle substance within a closed system [E47]

PROC2	
Preparation of material for application [CS96] PROC3	No specific measures identified[EI18]
Film formation - air drying [CS95]Outdoor [OC9] PROC4	Ensure operation is undertaken outdoors [E69]
Film formation - air drying [CS95]Indoor [OC8] PROC4	Provide enhanced mechanical ventilation by mechanical means [E48]
Preparation of material for application [CS96]Indoor [OC8] PROC5	Provide enhanced mechanical ventilation by mechanical means [E48]
Preparation of material for application [CS96]Outdoor [OC9] PROC5	Ensure operation is undertaken outdoors [E69]
Material transfers [CS3]Drum/batch transfers [CS8] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
Material transfers [CS3]Drum/batch transfers [CS8] PROC8b	Ensure transfer points are supplied with extract ventilation. [E73]
Roller, spreader, flow application [CS98]Indoor [OC8] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Roller, spreader, flow application [CS98]Outdoor [OC9] PROC10	Ensure operation is undertaken outdoors [E69]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Manual [CS34]Spraying [CS10]Indoor [OC8] PROC11	Carry out in a vented booth [E57]
Manual [CS34]Spraying [CS10]Outdoor [OC9] PROC11 Manual [CS34]Spraying [CS10]Outdoor [OC9] PROC11	Ensure operation is undertaken outdoors [E69]Limit the substance content in the product to 5 % [OC17]Avoid carrying out operation for more than 1 hour [OC11]
	Ensure operation is undertaken outdoors [E69]Avoid carrying out operation for more than 4 hours [OC12]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Dipping, immersion and pouring [CS4]Indoor [OC8] PROC13	Provide extract ventilation to points where emissions occur [E54]Avoid manual contact with wet work pieces [EI17]
Dipping, immersion and pouring [CS4]Outdoor [OC9] PROC13	Ensure operation is undertaken outdoors [E69]Avoid manual contact with wet work pieces [EI17]
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Hand application - fingerpaints, pastels, adhesives [CS72]Indoor [OC8] PROC19	Ensure doors and windows are opened [E72]

Hand application - fingerpaints, pastels, adhesives [CS72]Outdoor [OC9] PROC19	Avoid carrying out operation for more than 4 hours [OC12]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.1e2
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	5.4e-2
Maximum daily site tonnage (kg/day)	1.5e-1
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.98
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.01
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6

Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	4.0e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].

Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet

Section 3 Exposure Estimation

3.1. Health

Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]

3.2. Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].

Section 4 Guidance to check compliance with the Exposure Scenario

4.1. Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]

4.2. Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Uses in Coatings – Consumer

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	1, 4, 8 (excipient only), 9, 15, 18, 23, 24, 31, 34 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.3c.v1
Processes, tasks, activities covered	
Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Amounts used	Unless otherwise stated, covers use amounts up to13800g [ConsOC2]; covers skin contact area up to 857.5cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 1 times per day [ConsOC4]; covers exposure up to 8 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC1:Adhesives, sealants--Glues, hobby use	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 9g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Glues DIY-use (carpet glue, tile glue, wood parquet glue)	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 1 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 110.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 6390g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 6.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Glue from spray	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 85.05g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Sealants	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 75g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.00hr/event[ConsOC14];
	Avoid using at a product concentration greater than 25% [ConsRMM1]; Avoid using when windows closed [ConsRMM8];
PC4_n:Anti-freeze and de-icing products--Washing car window	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 0.5g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.02hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC4_n:Anti-freeze and de-icing products--Pouring into radiator	Unless otherwise stated, covers concentrations up to 10% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2000g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC4_n:Anti-freeze and de-icing products--Lock de-icer	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 214.40 cm2 [ConsOC5]; for each use event, covers use amounts up to 4g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.25hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC8_n: Biocidal products (excipient use only for solvent products)--Laundry and dish washing products	Unless otherwise stated, covers concentrations up to 5% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 15g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.50hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC8_n: Biocidal products (excipient use only for solvent products)--Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)	Unless otherwise stated, covers concentrations up to 5% [ConsOC1]; covers use up to 128 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 27g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC8_n: Biocidal products (excipient use only for solvent products)--Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)	Unless otherwise stated, covers concentrations up to 15% [ConsOC1]; covers use up to 128 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 35g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Waterborne latex wall paint	Unless otherwise stated, covers concentrations up to 1.5% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 2760g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Solvent rich, high solid, water borne paint	Unless otherwise stated, covers concentrations up to 27.5% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 744g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Aerosol spray can	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 2 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 215g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Removers (paint-, glue-, wall paper-, sealant-remover)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 3 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 491g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9b:Fillers, putties, plasters, modeling clay--Fillers and putty	Unless otherwise stated, covers concentrations up to 2% [ConsOC1]; covers use up to 12 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 85g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9b:Fillers, putties, plasters, modeling clay--Plasters and floor equalizers	Unless otherwise stated, covers concentrations up to 2% [ConsOC1]; covers use up to 12 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 13800g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC9b:Fillers, putties, plasters, modeling clay--Modelling clay	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 254.40 cm2 [ConsOC5]; for each use event, assumes swallowed amount of 1g [ConsOC13];
	No specific RMMs identified beyond those OCs stated
PC9c:Finger paints --Finger paints	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 254.40 cm2 [ConsOC5]; for each use event, assumes swallowed amount of 1.35g [ConsOC13];
	Avoid using at a product concentration greater than 1.25% [ConsRMM1];
PC15_n: Non-metal surface treatment products--Waterborne latex wall paint	Unless otherwise stated, covers concentrations up to 1.5% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 2760g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC15_n: Non-metal surface treatment products--Solvent rich, high solid, water borne paint	Unless otherwise stated, covers concentrations up to 27.5% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 744g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC15_n: Non-metal surface treatment products--Aerosol spray can	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 2 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 215g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated

PC15_n: Non-metal surface treatment products--Removers (paint-, glue-, wall paper-, sealant-remover)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 3 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 491g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC18_n: Ink and toners--Inks and toners.	Unless otherwise stated, covers concentrations up to 10% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 71.40 cm2 [ConsOC5]; for each use event, covers use amounts up to 40g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC23_n: Leather tanning, dye, finishing, impregnation and care products--Polishes, wax / cream (floor, furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 29 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 56g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.23hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC23_n: Leather tanning, dye, finishing, impregnation and care products--Polishes, spray (furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 8 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 56g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Liquids	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2200g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Pastes	Unless otherwise stated, covers concentrations up to 20% [ConsOC1]; covers use up to 10 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 34g [ConsOC2];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Sprays	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 73g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC31:Polishes and wax blends--Polishes, wax / cream (floor, furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 29 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 142g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.23hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC31:Polishes and wax blends--Polishes, spray (furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 8 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 35g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC34_n: Textile dyes, finishing and impregnating products--	Unless otherwise stated, covers concentrations up to 10% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 115g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in	

Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	5.1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	2.6e-3
Maximum daily site tonnage (kg/day)	7.0e-3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.99
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.005
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	2.0
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks	

are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Cleaning Agents – Industrial

Section 1 Exposure Scenario Title	
Title	
Use in Cleaning Agents – Industrial GES 4.1	
Use Descriptor	
Sector(s) of Use	3
Process Categories	2, 3, 4, 7, 8a, 8b, 10, 13 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC 4.4a.v1
Processes, tasks, activities covered	
Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14] PROC8a	Ensure material transfers are under containment or extract ventilation [E66]
Automated process with (semi) closed systems. [CS93]Use in contained systems [CS38] PROC2	No specific measures identified[EI18]
Automated process with (semi) closed systems.	No specific measures identified[EI18]

[CS93]Drum/batch transfers [CS8] PROC3	
Application of cleaning products in closed systems [CS101] PROC2	No specific measures identified[EI18]
Filling / preparation of equipment from drums or containers. [CS45] PROC8b	No specific measures identified[EI18]
Use in contained batch processes [CS37] PROC4	No specific measures identified[EI18]
Degreasing small objects in cleaning station [CS41] PROC13	Provide extract ventilation to points where emissions occur [E54]
Cleaning with low-pressure washers [CS42] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Cleaning with high pressure washers [CS44] PROC7	Provide enhanced mechanical ventilation by mechanical means [E48]Avoid carrying out operation for more than 1 hour [OC11]
Cleaning with high pressure washers [CS44] PROC7	Provide enhanced mechanical ventilation by mechanical means [E48]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Manual [CS34]Surfaces [CS48]Cleaning [CS47] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	2.4e2
Fraction of Regional tonnage used locally	0.41
Annual site tonnage (tonnes/year)	1.0e2
Maximum daily site tonnage (kg/day)	5.0e3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	

Release fraction to air from process (initial release prior to RMM)	1.0
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-6
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	70
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.2e6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Cleaning Agents – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.4b.v1
Processes, tasks, activities covered	
Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Filling / preparation of equipment from drums or containers. [CS45] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
Automated process with (semi) closed systems. [CS93]Use in contained systems [CS38] PROC2	No specific measures identified[EI18]

Automated process with (semi) closed systems. [CS93]Drum/batch transfers [CS8]Use in contained systems [CS38] PROC3	No specific measures identified[EI18]
Semi Automated process. (e.g.: Semi automatic application of floor care and maintenance products) [CS76] PROC4	Provide enhanced mechanical ventilation by mechanical means [E48]
Filling / preparation of equipment from drums or containers. [CS45] PROC8a	Ensure operation is undertaken outdoors [E69]Avoid carrying out operation for more than 1 hour [OC11]
Manual [CS34]Surfaces [CS48]Cleaning [CS47]Dipping, immersion and pouring [CS4] PROC13	Provide enhanced mechanical ventilation by mechanical means [E48]
Cleaning with low-pressure washers [CS42]Rolling, Brushing [CS51]no spraying [CS60] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]Limit the substance content in the product to 5 % [OC17]
Cleaning with high pressure washers [CS44]Spraying [CS10]Indoor [OC8] PROC11	Provide enhanced mechanical ventilation by mechanical means [E48]Limit the substance content in the product to 1 % [OC16]
Cleaning with high pressure washers [CS44]Spraying [CS10]Outdoor [OC9] PROC11	Ensure operation is undertaken outdoors [E69]Limit the substance content in the product to 1 % [OC16]Avoid carrying out operation for more than 4 hours [OC12]
Cleaning with high pressure washers [CS44]Spraying [CS10]Outdoor [OC9] PROC11	Ensure operation is undertaken outdoors [E69]Limit the substance content in the product to 5 % [OC17]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Manual [CS34]Surfaces [CS48]Cleaning [CS47]Spraying [CS10] PROC10	Ensure doors and windows are opened [E72]Limit the substance content in the product to 25 % [OC18]
Ad hoc manual application via trigger sprays, dipping, etc. [CS27]Rolling, Brushing [CS51] PROC10	Provide extract ventilation to points where emissions occur [E54]
Ad hoc manual application via trigger sprays, dipping, etc. [CS27]Rolling, Brushing [CS51]	Provide extract ventilation to points where emissions occur [E54]Limit the substance content in the product to 25 % [OC18]
	Limit the substance content in the product to 25 % [OC18]Wear a

PROC10 Ad hoc manual application via trigger sprays, dipping, etc. [CS27]Rolling, Brushing [CS51] PROC10	respirator conforming to EN140 with Type A filter or better. [PPE22]
Application of cleaning products in closed systems [CS101]Outdoor [OC9] PROC4	Ensure operation is undertaken outdoors [E69]
Cleaning of medical devices [CS74] PROC4	Provide extract ventilation to points where emissions occur [E54]

Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3

Section 2.2 Control of environmental exposure

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.4e1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	7.1e-3
Maximum daily site tonnage (kg/day)	1.9e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.02
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-6
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the	0

required removal efficiency ≥ (%)	
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	5.4
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Cleaning Agents – Consumer

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	3, 4, 8, 9, 24, 35, 38 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.4c.v1
Processes, tasks, activities covered	
Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, lubricants and air care products.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Amounts used	Unless otherwise stated, covers use amounts up to13800g [ConsOC2]; covers skin contact area up to 857.5cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 4 times per day [ConsOC4]; covers exposure up to 8 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC3:Air care products--Air care, instant action (aerosol sprays)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 4 times/day of use[ConsOC4]; for each use event, covers use amounts up to 0.1g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.25hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated

PC3:Air care products--Air care, instant action (aerosol sprays)-pesticidal- excipient only	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 4 times/day of use[ConsOC4]; for each use event, covers use amounts up to 5g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.25hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC3:Air care products--Air care, continuous action (solid and liquid)	Unless otherwise stated, covers concentrations up to 10% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.70 cm2 [ConsOC5]; for each use event, covers use amounts up to 0.48g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 8.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC3:Air care products--Air care, continuous action (solid and liquid)-pesticidal- excipient only	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.70 cm2 [ConsOC5]; for each use event, covers use amounts up to 0.48g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 8.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC4_n:Anti-freeze and de-icing products--Washing car window	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 0.5g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.02hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC4_n:Anti-freeze and de-icing products--Pouring into radiator	Unless otherwise stated, covers concentrations up to 10% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2000g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC4_n:Anti-freeze and de-icing	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of

products--Lock de-icer	use[ConsOC4]; covers skin contact area up to 214.40 cm2 [ConsOC5]; for each use event, covers use amounts up to 4g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.25hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC8_n: Biocidal products (excipient use only for solvent products)--Laundry and dish washing products	Unless otherwise stated, covers concentrations up to 5% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 15g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.50hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC8_n: Biocidal products (excipient use only for solvent products)--Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)	Unless otherwise stated, covers concentrations up to 5% [ConsOC1]; covers use up to 128 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 27g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC8_n: Biocidal products (excipient use only for solvent products)--Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)	Unless otherwise stated, covers concentrations up to 15% [ConsOC1]; covers use up to 128 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 35g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Waterborne latex wall paint	Unless otherwise stated, covers concentrations up to 1.5% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 2760g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Solvent rich, high	Unless otherwise stated, covers concentrations up to 27.5% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of

solid, water borne paint	use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 744g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.20hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Aerosol spray can	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 2 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 215g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9a:Coatings and paints, fillers putties, thinners--Removers (paint-, glue-, wall paper-, sealant-remover)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 3 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 491g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9b:Fillers, putties, plasters, modeling clay--Fillers and putty	Unless otherwise stated, covers concentrations up to 2% [ConsOC1]; covers use up to 12 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 85g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC9b:Fillers, putties, plasters, modeling clay--Plasters and floor equalizers	Unless otherwise stated, covers concentrations up to 2% [ConsOC1]; covers use up to 12 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 13800g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	Avoid using at a product concentration greater than 1.25% [ConsRMM1];
PC9b:Fillers, putties, plasters, modeling clay--Modelling clay	Unless otherwise stated, covers concentrations up to 1% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 254.40 cm2 [ConsOC5]; for

	each use event, assumes swallowed amount of 1g [ConsOC13];
	No specific RMMs identified beyond those OCs stated
PC9c:Finger paints --Finger paints	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 254.40 cm2 [ConsOC5]; for each use event, assumes swallowed amount of 1.35g [ConsOC13];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Liquids	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2200g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Pastes	Unless otherwise stated, covers concentrations up to 20% [ConsOC1]; covers use up to 10 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 34g [ConsOC2];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Sprays	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 73g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC35:Washing and cleaning products (including solvent based products)--Laundry and dish washing products	Unless otherwise stated, covers concentrations up to 5% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, covers use amounts up to 15g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.50hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC35:Washing and cleaning products (including solvent based products)--Cleaners, liquids (all	Unless otherwise stated, covers concentrations up to 5% [ConsOC1]; covers use up to 128 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for

purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)	each use event, covers use amounts up to 27g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC35:Washing and cleaning products (including solvent based products)--Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)	Unless otherwise stated, covers concentrations up to 15% [ConsOC1]; covers use up to 128 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 35g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
RMM	No specific RMMs identified beyond those OCs stated
PC38_n: Welding and soldering products, flux products--NOTE, n_assessment not in TRA	Unless otherwise stated, covers concentrations up to 20% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 12g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.00hr/event[ConsOC14];
RMM	No specific RMMs identified beyond those OCs stated
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.2e-2
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	6.2e-6
Maximum daily site tonnage (kg/day)	1.7e-5
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.95

Release fraction to wastewater from process (initial release prior to RMM)	0.025
Release fraction to soil from process (initial release prior to RMM)	0.025
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	4.7e-3
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Oil and Gas Field Drilling and Production Operations – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 8a, 8b *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC 4.5a.v1
Processes, tasks, activities covered	
Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14] PROC8b	No specific measures identified[EI18]
Filling / preparation of equipment from drums or containers. [CS45] PROC8b	No specific measures identified[EI18]
Drilling mud (re-)formulation [CS115] PROC3	No specific measures identified[EI18]
Drill floor operations [CS116] PROC4	No specific measures identified[EI18]

Operation of solids filtering equipment - vapour exposures [CS118] PROC4	No specific measures identified[EI18]
Cleaning of solids filtering equipment [CS120] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
Treatment and disposal of filtered solids [CS121] PROC3	No specific measures identified[EI18]
Process sampling [CS2] PROC3	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC1	No specific measures identified[EI18]
Pouring from small containers [CS9] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]
Equipment cleaning and maintenance [CS39] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
Batch process [CS55] PROC1	No specific measures identified[EI18]
Batch process [CS55] PROC2	No specific measures identified[EI18]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	1
Regional use tonnage (tonnes/year)	0.5
Fraction of Regional tonnage used locally	Not Applicable
Annual site tonnage (tonnes/year)	Not Applicable
Maximum daily site tonnage (kg/day)	Not Applicable
Frequency and duration of use	
Emission days (days/year) [FD4]	Not Applicable
Environmental factors not influenced by risk management	

Local marine water dilution factor [EF2]	Not Applicable
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM) [OOC4]	Not Applicable
Release fraction to wastewater from process (initial release prior to RMM) [OOC5]	Not Applicable
Technical conditions and measures at process level (source) to prevent release	
Discharge to aquatic environment is restricted (see Section 4.2) [TCS2].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not Applicable	
Treat air emission to provide a typical removal efficiency of (%) [TCR7]	Not Applicable
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	Not Applicable
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	Not Applicable
Organisation measures to prevent/limit release from site	
Prevent environmental discharge consistent with regulatory requirements [OMS4].	
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	Not Applicable
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	Not Applicable
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	Not Applicable
Assumed domestic sewage treatment plant flow (m^3/d)	Not Applicable
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	

Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet
Section 3 Exposure Estimation
3.1. Health
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]
3.2. Environment
Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment [EE7]. Qualitative approach used to conclude safe use [EE8].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Discharge to aquatic environment is restricted by law and industry prohibits release[1] [DSU9]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4]. [1]OSPAR Commission 2009. Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2007, including the assessment of data reported in 2006 and 2007.

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Oil and Gas Field Drilling and Production Operations – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 4, 8a, 8b *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC 4.5a.v1
Processes, tasks, activities covered	
Oil field well drilling operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
Filling / preparation of equipment from drums or containers. [CS45] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
Drilling mud (re-)formulation [CS115] PROC3	No specific measures identified[EI18]
Drill floor operations [CS116] PROC4	Provide enhanced mechanical ventilation by mechanical means [E48]
Operation of solids filtering equipment	Provide enhanced mechanical ventilation by mechanical means [E48]

- vapour exposures [CS118] PROC4	
Cleaning of solids filtering equipment [CS120] PROC8a	No specific measures identified[EI18]
Treatment and disposal of filtered solids [CS121] PROC3	No specific measures identified[EI18]
Process sampling [CS2] PROC3	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC1	No specific measures identified[EI18]
Pouring from small containers [CS9] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
General exposures (open systems) [CS16] PROC4	Provide enhanced mechanical ventilation by mechanical means [E48]
Equipment cleaning and maintenance [CS39] PROC8a	No specific measures identified[EI18]
Batch process [CS55] PROC2	No specific measures identified[EI18]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	1
Regional use tonnage (tonnes/year)	0.5
Fraction of Regional tonnage used locally	Not Applicable
Annual site tonnage (tonnes/year)	Not Applicable
Maximum daily site tonnage (kg/day)	Not Applicable
Frequency and duration of use	
Emission days (days/year) [FD4]	Not Applicable
Environmental factors not influenced by risk management	
Local marine water dilution factor [EF2]	Not Applicable
Other given operational conditions affecting environmental exposure	

Release fraction to air from process (initial release prior to RMM) [OOC4]	Not Applicable
Release fraction to wastewater from process (initial release prior to RMM) [OOC5]	Not Applicable
Technical conditions and measures at process level (source) to prevent release	
Discharge to aquatic environment is restricted (see Section 4.2) [TCS2].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not Applicable	
Treat air emission to provide a typical removal efficiency of (%) [TCR7]	Not Applicable
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	Not Applicable
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	Not Applicable
Organisation measures to prevent/limit release from site	
Prevent environmental discharge consistent with regulatory requirements [OMS4].	
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	Not Applicable
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	Not Applicable
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	Not Applicable
Assumed domestic sewage treatment plant flow (m^3/d)	Not Applicable
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	

Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment [EE7]. Qualitative approach used to conclude safe use [EE8].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Discharge to aquatic environment is restricted by law and industry prohibits release[1] [DSU9]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4]. [1]OSPAR Commission 2009. Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2007, including the assessment of data reported in 2006 and 2007.

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Lubricants – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 7, 8a, 8b, 9, 10, 13, 17, 18 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4, 7
Specific Environmental Release Category	ESVOC 4.6a.v1
Processes, tasks, activities covered	
Covers the use of formulated lubricants in closed and open systems including material transfers operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]

General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]
Bulk transfers [CS14] PROC8b	No specific measures identified[EI18]
Filling / preparation of equipment from drums or containers. [CS45] PROC8a	Use drum pumps or carefully pour from container [E64]
Filling / preparation of equipment from drums or containers. [CS45] PROC8b	No specific measures identified[EI18]
Initial factory fill of equipment [CS75] PROC9	No specific measures identified[EI18]
Operation and lubrication of high energy open equipment [CS17] PROC17	Provide extract ventilation to points where emissions occur [E54]Restrict area of openings to equipment [E68]
Operation and lubrication of high energy open equipment [CS17] PROC18	Provide extract ventilation to points where emissions occur [E54]
Manual applications e.g. brushing, rolling [CS13] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Treatment by dipping and pouring [CS35] PROC13	Allow time for product to drain from workpiece [EI21]Restrict area of openings to equipment [E68]
Spraying [CS10] PROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Maintenance (of larger plant items) and machine set up [CS77] PROC8b	No specific measures identified[EI18]
Maintenance (of larger plant items) and machine set up [CS77]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]Drain down and flush system prior to equipment break-in or maintenance [E55]
Maintenance of small items [CS18] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]Avoid manual contact with wet work pieces [EI17]
Remanufacture of reject articles [CS19] PROC9	No specific measures identified[EI18]
Material storage [CS67] PROC1	Store substance within a closed system [E84]Transfer via enclosed lines

	[E52]
Material storage [CS67] PROC2	Store substance within a closed system [E84]Transfer via enclosed lines [E52]

Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3

Section 2.2 Control of environmental exposure

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	6.3e2
Fraction of Regional tonnage used locally	1.6e-1
Annual site tonnage (tonnes/year)	1.0e2
Maximum daily site tonnage (kg/day)	5.0e3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	5.0e-3
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-5
Release fraction to soil from process (initial release prior to RMM)	1.0e-3
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	70
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	

Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	8.9e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Lubricants – Professional: Low Environmental Release

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 4, 8a, 8b, 9, 13, 17, 20 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC 9.6b.v1
Processes, tasks, activities covered	
Covers the use of formulated lubricants in closed or contained systems including material transfers operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]
Operation of equipment	No specific measures identified[EI18]

containing enigne oils and similar [CS26] PROC20	
General exposures (open systems) [CS16] PROC4	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. [E1]
Bulk transfers [CS14] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]Handle substance within a closed system [E47]
Filling / preparation of equipment from drums or containers. [CS45]Dedicated facility [CS81] PROC8b	Use drum pumps or carefully pour from container [E64]
Filling / preparation of equipment from drums or containers. [CS45]Non-dedicated facility [CS82] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
Operation and lubrication of high energy open equipment [CS17]Indoor [OC8] PROC17	Provide enhanced mechanical ventilation by mechanical means [E48]Restrict area of openings to equipment [E68]
Operation and lubrication of high energy open equipment [CS17] PROC18	Provide extract ventilation to points where emissions occur [E54]Restrict area of openings to equipment [E68]
Operation and lubrication of high energy open equipment [CS17]Outdoor [OC9] PROC17	Ensure operation is undertaken outdoors [E69]Limit the substance content in the product to 5 % [OC17]
Maintenance (of larger plant items) and machine set up [CS77] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
Maintenance (of larger plant items) and machine set up [CS77]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC8b	Avoid carrying out operation for more than 4 hours [OC12]Drain down system prior to equipment break-in or maintenance [E65]
Maintenance of small items [CS18]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]Avoid carrying out operation for more than 4 hours [OC12]Drain or remove substance from equipment prior to break-in or maintenance [E81]
Engine lubricant service [CS78]	Provide enhanced mechanical ventilation by mechanical means [E48]

PROC9	
Manual applications e.g. brushing, rolling [CS13] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
	Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
Spraying [CS10] PROC11 Spraying [CS10] PROC11	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
	Provide enhanced mechanical ventilation by mechanical means [E48]Avoid carrying out operation for more than 4 hours [OC12]Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
Treatment by dipping and pouring [CS35] PROC13	Provide enhanced mechanical ventilation by mechanical means [E48]Allow time for product to drain from workpiece [EI21]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]

Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3

Section 2.2 Control of environmental exposure

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	5.0e1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	2.5e-2
Maximum daily site tonnage (kg/day)	6.8e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.01
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.01
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.9e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Lubricants – Professional: High Environmental Release

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 4, 8a, 8b, 9, 13, 17, 20 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.6c.v1
Processes, tasks, activities covered	
Covers the use of formulated lubricants in open systems including material transfers operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]
Operation of equipment containing enigne oils and similar	No specific measures identified[EI18]

[CS26] PROC20	
General exposures (open systems) [CS16] PROC4	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. [E1]
Bulk transfers [CS14] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]Handle substance within a closed system [E47]
Filling / preparation of equipment from drums or containers. [CS45]Dedicated facility [CS81] PROC8b	Use drum pumps or carefully pour from container [E64]
Filling / preparation of equipment from drums or containers. [CS45]Non-dedicated facility [CS82] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
Operation and lubrication of high energy open equipment [CS17]Indoor [OC8] PROC17	Provide enhanced mechanical ventilation by mechanical means [E48]Restrict area of openings to equipment [E68]
Operation and lubrication of high energy open equipment [CS17] PROC18	Provide extract ventilation to points where emissions occur [E54]Restrict area of openings to equipment [E68]
Operation and lubrication of high energy open equipment [CS17]Outdoor [OC9] PROC17	Ensure operation is undertaken outdoors [E69]Limit the substance content in the product to 5 % [OC17]
Maintenance (of larger plant items) and machine set up [CS77] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
Maintenance (of larger plant items) and machine set up [CS77]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC8b	Avoid carrying out operation for more than 4 hours [OC12]Drain down system prior to equipment break-in or maintenance [E65]
Maintenance of small items [CS18]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]Avoid carrying out operation for more than 4 hours [OC12]Drain or remove substance from equipment prior to break-in or maintenance [E81]
Engine lubricant service [CS78] PROC9	Provide enhanced mechanical ventilation by mechanical means [E48]

Manual applications e.g. brushing, rolling [CS13] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Manual applications e.g. brushing, rolling [CS13] PROC10	Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
Spraying [CS10] PROC11	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Spraying [CS10] PROC11	Provide enhanced mechanical ventilation by mechanical means [E48]Avoid carrying out operation for more than 4 hours [OC12]Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
Treatment by dipping and pouring [CS35] PROC13	Provide enhanced mechanical ventilation by mechanical means [E48]Allow time for product to drain from workpiece [EI21]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	5.0e1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	2.5e-2
Maximum daily site tonnage (kg/day)	6.8e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.5e-1
Release fraction to wastewater from process (initial release prior to RMM)	0.05
Release fraction to soil from process (initial release prior to RMM)	0.05
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases	

to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.9e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Lubricants – Consumer: Low Environmental Release

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	1, 24, 31 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC 9.6d.v1
Processes, tasks, activities covered	
Covers the consumer use of formulated lubricants in closed or contained systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Amounts used	Unless otherwise stated, covers use amounts up to6390g [ConsOC2]; covers skin contact area up to 468cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 1 times per day [ConsOC4]; covers exposure up to 8 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC1:Adhesives, sealants--Glues, hobby use	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 9g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Glues DIY-use (carpet glue, tile glue, wood parquet glue)	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 1 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 110.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 6390g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 6.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Glue from spray	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 85.05g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Sealants	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 75g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.00hr/event[ConsOC14];
	Avoid using at a product concentration greater than 25% [ConsRMM1]; Avoid using when windows closed [ConsRMM8];
PC24: Lubricants, greases, and release products--Liquids	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2200g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Pastes	Unless otherwise stated, covers concentrations up to 20% [ConsOC1]; covers use up to 10 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 34g [ConsOC2];
	No specific RMMs identified beyond those OCs stated

PC24: Lubricants, greases, and release products--Sprays	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 73g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC31:Polishes and wax blends--Polishes, wax / cream (floor, furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 29 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 142g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.23hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC31:Polishes and wax blends--Polishes, spray (furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 8 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 35g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	5.0e1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	2.5e-2
Maximum daily site tonnage (kg/day)	6.8e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100

Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.01
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.01
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.9e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environnent	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Lubricants – Consumer: High Environmental Release

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	1, 24, 31 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.6e.v1
Processes, tasks, activities covered	
Covers the consumer use of formulated lubricants in open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Amounts used	Unless otherwise stated, covers use amounts up to6390g [ConsOC2]; covers skin contact area up to 468cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 1 times per day [ConsOC4]; covers exposure up to 8 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC1:Adhesives, sealants--Glues, hobby use	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 9g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];

	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Glues DIY-use (carpet glue, tile glue, wood parquet glue)	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 1 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 110.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 6390g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 6.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Glue from spray	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 85.05g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 4.00hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC1:Adhesives, sealants--Sealants	Unless otherwise stated, covers concentrations up to 30% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 35.73 cm2 [ConsOC5]; for each use event, covers use amounts up to 75g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.00hr/event[ConsOC14];
	Avoid using at a product concentration greater than 25% [ConsRMM1]; Avoid using when windows closed [ConsRMM8];
PC24: Lubricants, greases, and release products--Liquids	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2200g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC24: Lubricants, greases, and release products--Pastes	Unless otherwise stated, covers concentrations up to 20% [ConsOC1]; covers use up to 10 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 34g [ConsOC2];
	No specific RMMs identified beyond those OCs stated

PC24: Lubricants, greases, and release products--Sprays	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 6 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 428.75 cm2 [ConsOC5]; for each use event, covers use amounts up to 73g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC31:Polishes and wax blends--Polishes, wax / cream (floor, furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 29 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 142g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 1.23hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
PC31:Polishes and wax blends--Polishes, spray (furniture, shoes)	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 8 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 430.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 35g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.33hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	5.0e1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	2.5e-2
Maximum daily site tonnage (kg/day)	6.8e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100

Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.5e-1
Release fraction to wastewater from process (initial release prior to RMM)	0.05
Release fraction to soil from process (initial release prior to RMM)	0.05
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.9e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Metal Working Fluids/Rolling Oils – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC 4.7a.v1
Processes, tasks, activities covered	
Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]

General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]
Bulk transfers [CS14] PROC8b	Clear transfer lines prior to de-coupling [E39]
Filling / preparation of equipment from drums or containers. [CS45] PROC8b	No specific measures identified[EI18]
Filling / preparation of equipment from drums or containers. [CS45] PROC5	No specific measures identified[EI18]
Filling / preparation of equipment from drums or containers. [CS45] PROC9	No specific measures identified[EI18]
Process sampling [CS2] PROC8b	Use dedicated equipment [E85]
Metal machining operations [CS79] PROC17	No specific measures identified[EI18]
Treatment by dipping and pouring [CS35] PROC13	Provide enhanced mechanical ventilation by mechanical means [E48]Allow time for product to drain from workpiece [EI21]
Spraying [CS10] PROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Manual applications e.g. brushing, rolling [CS13] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Automated metal rolling/forming [CS80]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC2	No specific measures identified[EI18]
Semi-automated metal rolling/forming [CS83]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC17	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Equipment cleaning and maintenance [CS39]Dedicated facility [CS81] PROC8b	No specific measures identified[EI18]
Equipment cleaning and maintenance [CS39]Non-dedicated facility [CS82] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]

Material storage [CS67] PROC1	Store substance within a closed system [E84]Transfer via enclosed lines [E52]
Material storage [CS67] PROC2	Store substance within a closed system [E84]Transfer via enclosed lines [E52]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.0e2
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	1.0e2
Maximum daily site tonnage (kg/day)	5.0e3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	2.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-5
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	70
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	

Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	8.9e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Metal Working Fluids/Rolling Oils – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 5, 8a, 8b, 10, 11, 13, 17 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.7c.v1
Processes, tasks, activities covered	
Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles, and disposal of waste oils.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15] PROC3	Handle substance within a closed system [E47]

Bulk transfers [CS14] PROC8b	No specific measures identified[EI18]
Filling / preparation of equipment from drums or containers. [CS45]Dedicated facility [CS81] PROC8b	Use drum pumps or carefully pour from container [E64]
Filling / preparation of equipment from drums or containers. [CS45]Dedicated facility [CS81] PROC9	Use drum pumps or carefully pour from container [E64]
Filling / preparation of equipment from drums or containers. [CS45]Non-dedicated facility [CS82] PROC8a	Avoid carrying out operation for more than 1 hour [OC11]
Process sampling [CS2] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]Use dedicated equipment [E85]
Metal machining operations [CS79] PROC17	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Manual applications e.g. brushing, rolling [CS13] PROC10	Provide extract ventilation to points where emissions occur [E54]
Manual applications e.g. brushing, rolling [CS13] PROC10	Provide enhanced mechanical ventilation by mechanical means [E48]
Manual applications e.g. brushing, rolling [CS13] PROC10	Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
Spraying [CS10] PROC11	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]Provide enhanced mechanical ventilation by mechanical means [E48]
Spraying [CS10] PROC11	Provide enhanced mechanical ventilation by mechanical means [E48]Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]
Treatment by dipping and pouring [CS35] PROC13	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]Allow time for product to drain from workpiece [EI21]
Treatment by dipping and pouring [CS35] PROC13	Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE29]Allow time for product to drain from workpiece [EI21]
Equipment cleaning and maintenance [CS39]Non-dedicated facility [CS82] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]

Equipment cleaning and maintenance [CS39]Dedicated facility [CS81] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	100
Fraction of Regional tonnage used locally	0.0005
Annual site tonnage (tonnes/year)	0.05
Maximum daily site tonnage (kg/day)	1.4e-1
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.5e-1
Release fraction to wastewater from process (initial release prior to RMM)	0.05
Release fraction to soil from process (initial release prior to RMM)	0.05
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	

Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	36
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as Release Agents or Binders – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 4, 6, 7, 8b, 10, 14 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4, 5
Specific Environmental Release Category	ESVOC 4.10a.v1
Processes, tasks, activities covered	
Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting, and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
Material transfers [CS3] PROC1	Transfer via enclosed lines [E52]
Material transfers [CS3] PROC2	Transfer via enclosed lines [E52]
Material transfers [CS3] PROC3	Transfer via enclosed lines [E52]
Drum/batch transfers [CS8] PROC8b	No specific measures identified[EI18]
Mixing operations (closed systems) [CS29] PROC3	Formulate in enclosed or ventilated mixing vessels [E46]

Mixing operations (open systems) [CS30] PROC4	No specific measures identified[EI18]
Mold forming [CS31] PROC14	No specific measures identified[EI18]
Casting operations [CS32](open systems) [CS108]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7]Aerosol generation due to elevated process temperature [OC25] PROC6	Provide extract ventilation to points where emissions occur [E54]
Spraying [CS10]Machine [CS33] PROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Manual applications e.g. brushing, rolling [CS13] PROC10	Avoid carrying out operation for more than 4 hours [OC12]
Spraying [CS10]Manual [CS34] PROC7	Carry out in a vented booth [E57]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.0e2
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	1.0e2
Maximum daily site tonnage (kg/day)	5.0e3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-6
Release fraction to soil from process (initial release prior to RMM)	0

Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	80
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.2e6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as Release Agents or Binders – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 4, 6, 8b, 10, 11, 14 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.10b.v1
Processes, tasks, activities covered	
Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions** ***(only required controls to demonstrate safe use listed)***
Material transfers [CS3](closed systems) [CS107] PROC1	Transfer via enclosed lines [E52]
Material transfers [CS3](closed systems) [CS107] PROC2	Transfer via enclosed lines [E52]
Material transfers [CS3](closed systems) [CS107] PROC3	Transfer via enclosed lines [E52]
Drum/batch transfers [CS8] PROC8b	Provide a good standard of general ventilation (3 to 5 air changes per hour) [E40]

Mixing operations (closed systems) [CS29] PROC3	Formulate in enclosed or ventilated mixing vessels [E46]
Mixing operations (open systems) [CS30] PROC4	Provide enhanced mechanical ventilation by mechanical means [E48]
Mold forming [CS31] PROC14	Provide enhanced mechanical ventilation by mechanical means [E48]
Casting operations [CS32](open systems) [CS108]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC6	Provide extract ventilation to points where emissions occur [E54]
Spraying [CS10]Machine [CS33] PROC11	Minimise exposure by extracted full enclosure for the operation or equipment [E61]Provide enhanced mechanical ventilation by mechanical means [E48]
Manual applications e.g. brushing, rolling [CS13] PROC10	Avoid carrying out operation for more than 15 minutes [OC10]
Spraying [CS10]Manual [CS34] PROC11	Carry out in a vented booth [E57]
Material storage [CS67] PROC1	No specific measures identified[EI18]
Batch process [CS55] PROC2	No specific measures identified[EI18]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.0e2
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	5.0e-2
Maximum daily site tonnage (kg/day)	1.4e-1
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	

Release fraction to air from process (initial release prior to RMM)	0.95
Release fraction to wastewater from process (initial release prior to RMM)	0.025
Release fraction to soil from process (initial release prior to RMM)	0.025
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	3.7e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling	

may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Agrochemicals – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 4, 8a, 8b, 11, 13 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.11a.v1
Processes, tasks, activities covered	
Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Transfer from/pouring from containers [CS22] PROC8b	No specific measures identified[EI18]
Mixing and blending [CS23] PROC4	No specific measures identified[EI18]
Spraying/fogging by manual application [CS24] PROC11	Ensure operation is undertaken outdoors [E69]Avoid carrying out operation for more than 4 hours [OC12]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]Wear suitable coveralls capable of preventing significant penetration of the substance [PPE27]

Spraying/fogging by machine application [CS25] PROC11	Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20 [E70]
Ad hoc manual application via trigger sprays, dipping, etc. [CS27] PROC13	Ensure operation is undertaken outdoors [E69]
Clean-down and maintenance of equipment [CS26] PROC8a	No specific measures identified[EI18]
Disposal of wastes [CS28] PROC8a	Ensure operation is undertaken outdoors [E69]Limit the substance content in the product to 5 % [OC17]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	8.7e2
Fraction of Regional tonnage used locally	2.0e-3
Annual site tonnage (tonnes/year)	1.7
Maximum daily site tonnage (kg/day)	4.8
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.9
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.09
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A

Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	9.2e2
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Agrochemicals – Consumer

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	12, 27 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	8a, 8d
Specific Environmental Release Category	ESVOC 8.11b.v1
Processes, tasks, activities covered	
Covers the consumer use in agrochemicals in liquid and solid forms.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 50% [ConsOC1]
Amounts used	covers skin contact area up to 857.5cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 1 times per day [ConsOC4]; covers exposure up to 8 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC12:Fertilizers--Lawn and garden preparations	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5]; for each use event, assumes swallowed amount of 0.3g [ConsOC13];
	Avoid using at a product concentration greater than 2.5% [ConsRMM1];
PC27_n: Plant protection products--	Unless otherwise stated, covers concentrations up to 50% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 857.50 cm2 [ConsOC5];

	for each use event, assumes swallowed amount of 0.3g [ConsOC13];
	Avoid using at a product concentration greater than 2.5% [ConsRMM1];

Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3

Section 2.2 Control of environmental exposure

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.0e1
Fraction of Regional tonnage used locally	2.0e-3
Annual site tonnage (tonnes/year)	2.0e-2
Maximum daily site tonnage (kg/day)	5.5e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.9
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.09
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.5e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000

Conditions and measures related to external treatment of waste for disposal
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].
Conditions and measures related to external recovery of waste
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].

Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet

Section 3 Exposure Estimation

3.1. Health

Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management

measures are adopted.[G8]
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as a Fuel – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 8a, 8b, 16 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	7
Specific Environmental Release Category	ESVOC 7.12a.v1
Processes, tasks, activities covered	
Covers the use as a fuel (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14] PROC8b	Handle substance within a closed system [E47]
Drum/batch transfers [CS8] PROC8b	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system[E47]
General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system[E47]

Use as fuel [GEST12_I](closed systems)[CS107] PROC16	Handle substance within a closed system[E47]
General exposures (closed systems) [CS15](closed systems)[CS107] PROC3	Handle substance within a closed system[E47]
Equipment cleaning and maintenance [CS39] PROC8a	Drain down and flush system prior to equipment break-in or maintenance [E55]Apply vessel entry procedures including use of forced supplied air. [AP15]
Vessel and container cleaning [CS103] PROC8a	Drain down and flush system prior to equipment break-in or maintenance [E55]
Material storage[CS67] PROC1	Store substance within a closed system[E84]
Material storage[CS67] PROC2	Store substance within a closed system[E84]Transfer via enclosed lines[E52]

Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3

Section 2.2 Control of environmental exposure

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	2.5e3
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	2.5e3
Maximum daily site tonnage (kg/day)	2.5e4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	100
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	5.0e-3
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-5
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. No secondary wastewater treatment required [TCR6].	

Treat air emission to provide a typical removal efficiency of (%)	95
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	2.7e6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls [ETW1]. Combustion emissions considered in regional exposure assessment [ETW2].	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of the substance is generated [ERW3].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as a Fuel – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 8a, 8b, 16 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC 9.12b.v1
Processes, tasks, activities covered	
Covers the use as a fuel (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14] PROC8b	Ensure operation is undertaken outdoors [E69]Handle substance within a closed system [E47]Clear transfer lines prior to de-coupling [E39]
Drum/batch transfers [CS8] PROC8b	Use drum pumps or carefully pour from container [E64]
General exposures [CS1] PROC8b	Use drum pumps or carefully pour from container [E64]
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]

General exposures (closed systems) [CS15] PROC2	Handle substance within a closed system [E47]
General exposures (closed systems) [CS15](closed systems) [CS107] PROC3	No specific measures identified[EI18]
Use as Fuel[GEST12_I](closed systems0[CS107] PROC16	No specific measures identified[EI18]
Equipment cleaning and maintenance [CS39] PROC8a	Drain down system prior to equipment break-in or maintenance [E65]
Vessel and container cleaning [CS103] PROC8a	Drain down system prior to equipment break-in or maintenance [E65]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.2e-1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	6.2e-5
Maximum daily site tonnage (kg/day)	1.7e-4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0e-4
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-5
Release fraction to soil from process (initial release prior to RMM)	1.0e-5
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	

Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	4.7e-2
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls [ETW1]. Combustion emissions considered in regional exposure assessment [ETW2].	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of the substance is generated [ERW3].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as a Fuel – Consumer

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	13 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC 9.12c.v1
Processes, tasks, activities covered	
Covers consumer uses in fuels	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid,
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Amounts used	Unless otherwise stated, covers use amounts up to37500g [ConsOC2]; covers skin contact area up to 420cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC13:Fuels--Liquid - subcategories added: Automotive Refuelling	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];
	No specific RMMs developed beyong those OCs stated
PC13:Fuels--Liquid - subcategories	Unless otherwise stated, covers concentrations up to 100% [ConsOC1];

added: Scooter Refuelling	covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 3750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	No specific RMMs developed beyong those OCs stated
PC13:Fuels--Liquid - subcategories added: Garden Equipment - Use	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 2.00hr/event[ConsOC14];
	No specific RMMs developed beyong those OCs stated
PC13:Fuels--Liquid (subcategories added): Garden Equipment - Refueling	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	No specific RMMs developed beyong those OCs stated
PC13:Fuels--Liquid (subcategories added): Home space heater fuel	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 365 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 3000g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.03hr/event[ConsOC14];
	No specific RMMs developed beyong those OCs stated
PC13:Fuels--Liquid - subcategories added: Lamp oil	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 100g [ConsOC2]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m3[ConsOC11]; for each use event, covers exposure up to 0.01hr/event[ConsOC14]
	No specific RMMs developed beyong those OCs stated
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	2.4e3
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	1.2
Maximum daily site tonnage (kg/day)	3.2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0e-4
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-5
Release fraction to soil from process (initial release prior to RMM)	1.0e-5
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	9.0e2
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls [ETW1]. Combustion emissions considered in regional exposure assessment [ETW2].	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of the substance is generated [ERW3].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	

4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as Functional Fluids – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 4, 8a, 8b, 9 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	7
Specific Environmental Release Category	ESVOC 7.13a.v1
Processes, tasks, activities covered	
Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14](closed systems) [CS107] PROC1	Transfer via enclosed lines [E52]
Bulk transfers [CS14](closed systems) [CS107] PROC2	Transfer via enclosed lines [E52]
Drum/batch transfers [CS8] PROC8b	No specific measures identified[EI18]
Filling of articles/equipment [CS84](closed systems) [CS107]	No specific measures identified[EI18]

PROC9	
Filling / preparation of equipment from drums or containers. [CS45] PROC8a	Provide extract ventilation to material transfer points and other openings [E82]
General exposures (closed systems) [CS15] PROC2	No specific measures identified[EI18]
General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]
Remanufacture of reject articles [CS19] PROC9	No specific measures identified[EI18]
Equipment maintenance [CS5] PROC8a	Drain down and flush system prior to equipment break-in or maintenance [E55]Transfer via enclosed lines [E52]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	3.0
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	3.0
Maximum daily site tonnage (kg/day)	1.5e2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	5.0e-3
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-5
Release fraction to soil from process (initial release prior to RMM)	1.0e-3
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	4.0e4
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as Functional Fluids – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 8a, 9, 20 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC 9.13b.v1
Processes, tasks, activities covered	
Use as functional fluids e.g. cable oils, transfer oils, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Drum/batch transfers [CS8] PROC8a	Use drum pumps or carefully pour from container [E64]
Transfer from/pouring from containers [CS22] PROC9	Use drum pumps or carefully pour from container [E64]
Filling / preparation of equipment from drums or containers. [CS45] PROC9	Use drum pumps or carefully pour from container [E64]
General exposures (closed systems) [CS15] PROC1	Handle substance within a closed system [E47]

General exposures (closed systems) [CS15] PROC2	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC3	No specific measures identified[EI18]
General exposures (open systems) [CS16] PROC20	No specific measures identified[EI18]
General exposures (open systems) [CS16]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC20	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings [E60]
Remanufacture of reject articles [CS19] PROC9	Provide enhanced mechanical ventilation by mechanical means [E48]
Equipment maintenance [CS5] PROC8a	Drain down system prior to equipment break-in or maintenance [E65]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	3.0
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	1.5e-3
Maximum daily site tonnage (kg/day)	4.1e-3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.05
Release fraction to wastewater from process (initial release prior to RMM)	0.025
Release fraction to soil from process (initial release prior to RMM)	0.025

Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use as Functional Fluids – Consumer

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	21
Product Categories	16, 17 *Further information on the mapping and allocation of PC codes is contained in Appendix 1.b.*
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC 9.13c.v1
Processes, tasks, activities covered	
Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product characteristics	
Physical form of product	Liquid
Vapour pressure	0.06 kPa at STP
Concentration of substance in product	Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Amounts used	Unless otherwise stated, covers use amounts up to2200g [ConsOC2]; covers skin contact area up to 468cm2 [ConsOC5]
Frequency and duration of use/exposure	Unless otherwise stated, covers use frequency up to 0.01 times per day [ConsOC4]; covers exposure up to 0.17 hours per event [ConsOC14]
Other Operational Conditions affecting exposure	Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m3 room [ConsOC11]; assumes use with typical ventilation [ConsOC8].
Product Category	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
PC16_n: Heat transfer fluids--Liquids	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2200g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated

PC17_n: Hydraulic fluids--Liquids	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 4 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 468.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 2200g [ConsOC2]; Covers use in a one car garage (34m3) under typcial ventilation [ConsOC10]; covers use in room size of 34m3[ConsOC11]; for each use event, covers exposure up to 0.17hr/event[ConsOC14];
	No specific RMMs identified beyond those OCs stated
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	3.0
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	1.5e-3
Maximum daily site tonnage (kg/day)	4.1e-3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.05
Release fraction to wastewater from process (initial release prior to RMM)	0.025
Release fraction to soil from process (initial release prior to RMM)	0.025
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Risk from environmental exposure is driven by freshwater [STP7a].	
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in	

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Petrorisk file in IUCLID section 13 - "Local CSR" worksheet
Section 3 Exposure Estimation
3.1. Health
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Road and Construction Applications – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	8a, 8b, 10, 11, 13 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8d, 8f
Specific Environmental Release Category	ESVOC 8.15.v1
Processes, tasks, activities covered	
Application of surface coatings and binders in road and construction activities, including paving uses, manual mastic and in the application of roofing and water-proofing membranes	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Drum/batch transfers [CS8]Non-dedicated facility [CS82] PROC8a	Ensure operation is undertaken outdoors [E69]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Drum/batch transfers [CS8]Dedicated facility [CS81] PROC8b	Ensure operation is undertaken outdoors [E69]Use dedicated equipment [E85]Clear transfer lines prior to de-coupling [E39]
Drum/batch transfers [CS8]Dedicated facility [CS81]Operation is carried out at elevated temperature (> then 20°C	Ensure operation is undertaken outdoors [E69]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]Use dedicated equipment [E85]Clear transfer lines prior to de-coupling [E39]

above ambient temperature) [OC7] PROC8b	
Manual applications e.g. brushing, rolling [CS13] PROC10	Ensure operation is undertaken outdoors [E69]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Spraying/fogging by machine application [CS25]Operation is carried out at elevated temperature (> then 20°C above ambient temperature) [OC7] PROC11	Ensure operation is undertaken outdoors [E69]Avoid carrying out operation for more than 1 hour [OC11]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]Automate activity where possible [AP16]Ensure operatives are trained to minimise exposures [EI19]Stay upwind/keep distance from source [EI22]
Spraying/fogging by machine application [CS25] PROC11	Ensure operation is undertaken outdoors [E69]Avoid carrying out operation for more than 1 hour [OC11]Wear a respirator conforming to EN140 with Type A filter or better. [PPE22]
Dipping, immersion and pouring [CS4] PROC13	Ensure operation is undertaken outdoors [E69]
Equipment cleaning and maintenance [CS39] PROC8a	Retain drain downs in sealed storage pending disposal or for subsequent recycle [ENVT4]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.2e1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	6.1e-3
Maximum daily site tonnage (kg/day)	1.7e-2
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.95
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.04
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	4.6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Laboratories – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	10, 15 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	2, 4
Specific Environmental Release Category	*Not Applicable*
Processes, tasks, activities covered	
Use of the substance within laboratory settings, including material transfers and equipment cleaning	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Cleaning [CS47] PROC10	No specific measures identified[EI18]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1

Regional use tonnage (tonnes/year)	0.6
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	0.6
Maximum daily site tonnage (kg/day)	3.0e1
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.025
Release fraction to wastewater from process (initial release prior to RMM)	0.02
Release fraction to soil from process (initial release prior to RMM)	1.0e-4
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.3e3
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in	

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Petrorisk file in IUCLID section 13 - "Local CSR" worksheet
Section 3 Exposure Estimation
3.1. Health
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Laboratories – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	10, 15 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a
Specific Environmental Release Category	ESVOC 8.17.v1
Processes, tasks, activities covered	
Use of the substance within laboratory settings, including material transfers and equipment cleaning	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Laboratory activities [CS36] PROC15	No specific measures identified[EI18]
Cleaning [CS47] PROC10	No specific measures identified[EI18]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1

Regional use tonnage (tonnes/year)	6.0e-1
Fraction of Regional tonnage used locally	5.0e-4
Annual site tonnage (tonnes/year)	3.0e-4
Maximum daily site tonnage (kg/day)	8.2e-4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.5
Release fraction to wastewater from process (initial release prior to RMM)	0.5
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	2.3e-1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	

Section 3 Exposure Estimation
3.1. Health
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Polymer Processing – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 6, 8a, 8b, 14, 21 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8a, 8c, 8d, 8f
Specific Environmental Release Category	ESVOC 8.21b.v1
Processes, tasks, activities covered	
Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14](closed systems) [CS107] PROC1	Handle substance within a closed system [E47]
Bulk transfers [CS14](closed systems) [CS107] PROC2	Handle substance within a closed system [E47]
Material transfers [CS3] PROC8b	Transfer via enclosed lines [E52]
Injection moulding of articles [CS89] PROC6	Provide enhanced mechanical ventilation by mechanical means [E48]

Injection moulding of articles [CS89] PROC14	Provide enhanced mechanical ventilation by mechanical means [E48]
Rework of articles [CS86] PROC21	No specific measures identified[EI18]
Equipment maintenance [CS5] PROC8a	Drain or remove substance from equipment prior to break-in or maintenance [E81]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Material storage [CS67] PROC2	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	10
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	10
Maximum daily site tonnage (kg/day)	500
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.25
Release fraction to wastewater from process (initial release prior to RMM)	0
Release fraction to soil from process (initial release prior to RMM)	0.00001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater [TCR1a]. No secondary wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0

Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	1.4e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Water Treatment Chemicals – Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	10
Process Categories	1, 2, 3, 4, 8a, 8b, 13 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	3, 4
Specific Environmental Release Category	ESVOC 3.22a.v1
Processes, tasks, activities covered	
Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14]Dedicated facility [CS81] PROC2	Transfer via enclosed lines [E52]
Drum/batch transfers [CS8] PROC8b	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC3	No specific measures identified[EI18]
General exposures (open systems) [CS16] PROC4	No specific measures identified[EI18]

Pouring from small containers [CS9] PROC13	Provide enhanced mechanical ventilation by mechanical means [E48]
Equipment maintenance [CS5] PROC8a	Provide enhanced mechanical ventilation by mechanical means [E48]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	340
Fraction of Regional tonnage used locally	0.0043
Annual site tonnage (tonnes/year)	1.5
Maximum daily site tonnage (kg/day)	4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.01
Release fraction to wastewater from process (initial release prior to RMM)	0.99
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by soil [TCR1f]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	65.8
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	

Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	26
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Use in Water Treatment Chemicals – Professional

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 3, 4, 8a, 8b, 13 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	8f
Specific Environmental Release Category	ESVOC 8.22b.v1
Processes, tasks, activities covered	
Covers the use of the substance for the treatment of water in open and closed systems	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Drum/batch transfers [CS8] PROC8b	Provide enhanced mechanical ventilation by mechanical means [E48]
General exposures (closed systems) [CS15] PROC3	No specific measures identified[EI18]
General exposures (open systems) [CS16] PROC4	Provide enhanced mechanical ventilation by mechanical means [E48]
Pouring from small containers [CS9] PROC13	Avoid carrying out operation for more than 1 hour [OC11]

Equipment maintenance [CS5] PROC8a	Drain down system prior to equipment break-in or maintenance [E65]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.3e2
Fraction of Regional tonnage used locally	1.1e-2
Annual site tonnage (tonnes/year)	1.5
Maximum daily site tonnage (kg/day)	4.0
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.01
Release fraction to wastewater from process (initial release prior to RMM)	0.99
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by soil [TCR1f]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	65.8
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organisation measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6

Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	2.6e1
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	

BAZAN GROUP
GADIV PETOCHEMICAL INDUSTRIES LTD

SAFETY DATA SHEET

SOLGAD 150

December, 2016, Version 06

Mining Chemicals– Industrial

Section 1 Exposure Scenario Title	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3,4, 8a, 8b, 9 *Further information on the mapping and allocation of PROC codes is contained in Appendix 1.a.*
Environmental Release Categories	4
Specific Environmental Release Category	ESVOC 4.23.v1
Processes, tasks, activities covered	
Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and separation activities, and substance recovery and disposal.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP [OC3]
Concentration of substance in product	Covers percentage substance in the product up to 100% (unless stated differently) [G13]
Amounts used	No Limit
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [G2]
Other Operational Conditions affecting worker exposure	Assumes use at not > 20oC above ambient [G15]
	Assumes a good basic standard of occupational hygiene has been implemented [G1]
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions *(only required controls to demonstrate safe use listed)***
Bulk transfers [CS14] PROC2	Transfer via enclosed lines [E52]
Drum/batch transfers [CS8] PROC8b	No specific measures identified[EI18]
Pouring from small containers [CS9] PROC9	No specific measures identified[EI18]
General exposures (closed systems) [CS15] PROC3	No specific measures identified[EI18]
General exposures (open systems)	No specific measures identified[EI18]

[CS16] PROC5	
phase separation [CS106](closed systems) [CS107] PROC4	No specific measures identified[EI18]
ion exchange processes [CS105](closed systems) [CS107] PROC2	No specific measures identified[EI18]
Process sampling [CS2] PROC3	No specific measures identified[EI18]
Mixing and blending [CS23](closed systems) [CS107] PROC1	No specific measures identified[EI18]
Equipment cleaning and maintenance [CS39] PROC8a	No specific measures identified[EI18]
Material storage [CS67] PROC1	Store substance within a closed system [E84]
Additional information on the basis for the allocation of the identified OCs and RMMs is contained in Appendices 1 to 3	
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
2tonnage used in region	0.1
Regional use tonnage (tonnes/year)	0.1
Fraction of Regional tonnage used locally	1
Annual site tonnage (tonnes/year)	0.1
Maximum daily site tonnage (kg/day)	5.0
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	20
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	0.25
Release fraction to wastewater from process (initial release prior to RMM)	0.50
Release fraction to soil from process (initial release prior to RMM)	0.05
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b].	

If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	80
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥ (%)	42.8
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥ (%)	0
Organization measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.6
Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d)	53
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations [ERW1].	
Additional information on the basis for the allocation of the indentified OCs and RMMs is contained in Petrorisk file in IUCLID section 13 - "Local CSR" worksheet	
Section 3 Exposure Estimation	
3.1. Health	
Estimated workplace exposures are not expected to exceed DNELs when the indentified risk management measures are adopted.[G8]	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	