



SAFETY DATA SHEET

CHEMEX-CHP90

Date of issue: 2019-01-29

Revision date: Not applicable

Version: R0001.0001

1. IDENTIFICATION

A. Product name

- CHEMEX-CHP90

B. Recommended use and restriction on use

- General use : polymerisation initiator
- Restriction on use : Not available

C. Manufacturer / Supplier / Distributor information

o Manufacturer information

- Company name : DONGSUNG CORPORATION
- Address : 223-40, Yeosusandan 2-ro, Yeosu-si, Jeollanam-do 59611, KOREA
- Dept. : SHE
- Telephone number : +82-61-688-3500
- Emergency telephone number : +82-61-688-3500
- Fax number : +82-61-685-5355

o Supplier/Distributor information

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2. HAZARD IDENTIFICATION

A. GHS Classification

- Organic peroxides : Type F
- Acute toxicity (oral) : Category4
- Acute toxicity (inhalation: gas) : Category3
- Acute toxicity (inhalation: vapor) : Category3
- Skin corrosion/irritation : Category1B
- Serious eye damage/irritation : Category1
- Specific target organ toxicity(Single exposure) : Category3(Respiratory tract irritation)
- Specific target organ toxicity(Repeated exposure) : Category2
- Chronic aquatic toxicity : Category2

B. GHS label elements

o Hazard symbols



o Signal words

- Danger
- **Hazard statements**
 - H242 Heating may cause a fire
 - H302 Harmful if swallowed
 - H314 Causes severe skin burns and eye damage
 - H318 Causes serious eye damage
 - H331 Toxic if inhaled
 - H335 May cause respiratory irritation.
 - H373 May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
 - H411 Toxic to aquatic life with long lasting effects
- **Precautionary statements**
 - 1) Prevention**
 - P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 - P220 Keep/Store away from clothing//combustible materials.
 - P234 Keep only in original container.
 - P260 Do not breathe gas/mist/vapours/spray.
 - P261 Avoid breathing gas/mist/vapours/spray.
 - P264 Wash hands thoroughly after handling.
 - P270 Do not eat, drink or smoke when using this product.
 - P271 Use only outdoors or in a well-ventilated area.
 - P273 Avoid release to the environment.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - 2) Response**
 - P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 - P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 - P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P310 Immediately call a POISON CENTER or doctor/physician.
 - P311 Call a POISON CENTER or doctor/physician.
 - P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 - P314 Get medical advice/attention if you feel unwell.
 - P321 Specific treatment
 - P330 Rinse mouth.
 - P363 Wash contaminated clothing before reuse.
 - P391 Collect spillage.
 - 3) Storage**
 - P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 - P405 Store locked up.
 - P410 Protect from sunlight.
 - P411+P235 Store at temperatures not exceeding appropriate storage temperatures. Keep cool.
 - P420 Store away from other materials.
 - 4) Disposal**
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulation

C. Other hazards which do not result in classification : Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Cumyl hydroperoxide	Hydroperoxide, 1-methyl-1-phenylethyl ; Cumenehydroperoxide ; 1-Methyl-1-	80-15-9	>=87 ~ <90
2-Phenylisopropanol	-	617-94-7	>=5 ~ <10

Cumene	; 2-Phenylpropane ; Methyl ethyl benzene ; Cumol ; Propan-2-ylbenzene	98-82-8	>=1 ~ <5
Acetophenone	Acetophenone ; Acetylbenzene ; Acetophenone ; Phenyl methyl ketone ;	98-86-2	>=1 ~ <2

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Remove contact lenses if worn.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Prevent the spread of the skin.
- Wash thoroughly after handling.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.
- Take the doctor's examination.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Move containers from fire area, if you can do without the risk.
- Cool containers with water until well after fire is out.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.

- Vapor or gas is burned at distant ignition sources can be spread quickly.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Wear proper personal protective apparatus as indicated in Section 8 and avoid skin contact and inhalation.
- Must work against the wind, let the upwind people to evacuate.
- Remove all sources of ignition.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Prevent the influx to waterways, sewers, basements or confined spaces.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid contact with incompatible materials.
- Comply with all applicable laws and regulations for handling
- Refer to Engineering controls and personal protective equipment.
- Operators should wear antistatic footwear and clothing.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with heat, sparks, flame or other ignition sources.

B. Conditions for safe storage, including any incompatibilities

- Do not use damaged containers.
- Avoid direct sunlight.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- No open fire.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.
- Store away from water and sewer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- ACGIH TLV
 - [Cumene] : TWA, 50 ppm (246 mg/m³)
 - [Acetophenone] : TWA, 10 ppm(50 mg/m³)
- OSHA PEL
 - [Cumene]:50ppm 245mg/m³

B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

C. Individual protection measures, such as personal protective equipment

o Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

o Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

o Hand protection

- Wear appropriate chemical resistant glove.

o Skin protection

- Wear appropriate chemical resistant protective clothing.

o Others

- Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Liquid
- Color	Colorless
B. Odor	pungent
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	-30 °C
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Above the SADT value 100 °C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	4.0 hPa at 20 °C
L. Solubility	at 20 °C miscible
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Self-Accelerating decomposition temperature (SADT)	70 °C
S. Active Oxygen Content)	9.1 ~ 9.5%
T. Viscosity	10,9 mPa.s at 20 °C
U. Storage temperature	Below 40 °C
W. Molecular weight	Not available

10. STABILITY AND REACTIVITY

A. Chemical Stability

- May form explosive mixture.

B. Possibility of hazardous reactions

- Contact with other combustible material may cause fire.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with heat, sparks, flame or other ignition sources.
- Keep away from other materials.

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION**A. Information on the likely routes of exposure**

- **(Respiratory tracts)**
 - May cause respiratory irritation.
- **(Oral)**
 - Harmful if swallowed
- **(Eye-Skin)**
 - Causes serious eye damage
 - Causes severe skin burns and eye damage

B. Delayed and immediate effects and also chronic effects from short and long term exposure

- **Acute toxicity**
 - * **Oral**
 - Product : LD50 = 412.51 mg/kg Rat / Method : Calculation method
 - [Cumyl hydroperoxide] : LD50 = 382 mg/kg Rat (ChemIDPlus)
 - 2-Phenylisopropanoll] : LD50 = 1,300 mg/kg Rat
 - [Cumene] : LD50 = 2,000 mg/kg Rat
 - [Acetophenone] : LD50 = 956.3 mg/kg Rat
 - * **Dermal**
 - Product : LD50 = 1228mg/kg Rat / Method : Calculation method
 - [Cumyl hydroperoxide] : LD50 1,200 ~ 1,520 mg/kg Rat (ChemIDPlus), LD50 530~1060 mg/kg Rat (0.5-1.0 mL/kg)(HSDB)
 - 2-Phenylisopropanoll] : LD50 = 4300 mg/kg rabbit
 - [Cumene] : LD50 > 3160 mg/kg Rabbit
 - [Acetophenone] : LD50 = 1760 mg/kg rabbit
 - * **Inhalation**
 - Product : LC50 = 1.37 mg/L/4 hr Rat / Method : Calculation method
 - [Cumyl hydroperoxide] : LC50 = 1.37 mg/L/4 hr Rat (220 ppm/4hr)(ChemIDPlus)
 - [Cumene] : LC50 = 39.3 mg/L/4hr Rat (HSDB)
- **Skin corrosion/irritation**
 - Causes severe skin burns and eye damage
- **Serious eye damage/irritation**
 - Causes serious eye damage
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - Not available
- **Carcinogenicity**
 - * **IARC**
 - Not available
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - Not available
 - * **NTP**
 - Not available

- * **EU CLP**
 - Not available
- **Germ cell mutagenicity**
 - Not available
- **Reproductive toxicity**
 - Not available
- **STOT-single exposure**
 - May cause respiratory irritation.
- **STOT-repeated exposure**
 - May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
- **Aspiration hazard**
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- **Fish**
 - [Cumyl hydroperoxide] : LC50 = 3.9 mg/ℓ 96 hr Rainbow Trout (IUCLID, 2000)
 - [2-Phenylisopropanol] : LC50 = 11.714 mg/ℓ 96 hr (Estimate)
 - [Cumene] : LC50 = 5.1 mg/ℓ 96 hr
 - [Acetophenone] : LC50 = 162 mg/ℓ 96 hr (NITE)
- **Crustaceans**
 - [Cumyl hydroperoxide] : EC50 = 7 mg/ℓ 24 hr
 - [2-Phenylisopropanol] : LC50 = 0.375 mg/ℓ 48 hr
 - [Cumene] : LC50 = 1.2 mg/ℓ 96 hr Mysid shrimp and others (NITE: CICAD18, 1999)
- **Algae**
 - [Cumene] : EC50 = 2.6 mg/ℓ 72 hr

B. Persistence and degradability

- **Persistence**
 - [2-Phenylisopropanol] : log Kow = 1.95 (NLM)
 - [Acetophenone] : log Kow 1.58 (HSDB)
- **Degradability**
 - Not available

C. Bioaccumulative potential

- **Bioaccumulative potential**
 - [Cumyl hydroperoxide] : BCF = 35.5
 - [2-Phenylisopropanol] : BCF = 18 (HSDB)
 - [Cumene] : BCF = 35.5 (Carassius auratus(Fish, fresh water), 1mg/l)
- **Biodegradation**
 - [Cumyl hydroperoxide] : BOD: 0% (Existing Chemical Safety Inspections Data (2004)
 - [Cumene] : BOD: 33(%) (NITE)
 - [Acetophenone] : Biodegradability = 50 (%) 6 day (Aerobic, River)

D. Mobility in soil

- [2-Phenylisopropanol] : Koc = 274

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION**A. UN No. (IMDG)**

- 3109

B. Proper shipping name

- ORGANIC PEROXIDE TYPE F, LIQUID

C. Hazard Class

- 5.2

D. IMDG Packing group

- Not applicable

E. Marine pollutant

- Applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- Air transport(IATA): Not subject to IATA regulations.
- EmS FIRE SCHEDULE : F-J (Non-temperature-controlled self-reactives and organic peroxides)
- EmS SPILLAGE SCHEDULE : S-R (Organic peroxides)

15. REGULATORY INFORMATION**A. National and/or international regulatory information**

- **POPs Management Law**
 - Not applicable
- **Information of EU Classification**
 - * **Classification**
 - [Cumene] : H226,H304,H335,H411
 - [Acetophenone] : H302,H319
 - [Cumyl hydroperoxide] : H242,H331,H312,H302,H373,H314,H411
- **U.S. Federal regulations**
 - * **OSHA PROCESS SAFETY (29CFR1910.119)**
 - [Cumyl hydroperoxide] : 2267.995 kg 5000 lb
 - * **CERCLA Section 103 (40CFR302.4)**
 - [Cumyl hydroperoxide] : 4.53599 kg 10 lb
 - [Cumene] : 2267.995 kg 5000 lb
 - [Acetophenone] : 2267.995 kg 5000 lb
 - * **EPCRA Section 302 (40CFR355.30)**
 - Not applicable
 - * **EPCRA Section 304 (40CFR355.40)**
 - Not applicable
 - * **EPCRA Section 313 (40CFR372.65)**
 - [Cumyl hydroperoxide] : Applicable
 - [Cumene] : Applicable
 - [Acetophenone] : Applicable
- **Rotterdam Convention listed ingredients**
 - Not applicable
- **Stockholm Convention listed ingredients**
 - Not applicable

○ **Montreal Protocol listed ingredients**

- Not applicable

16. OTHER INFORMATION

A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2019-01-29

C. Revision number and Last date revised

- Not applicable

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).