# SDS(Safety Data Sheet)

| Product | Iso-Paraffin M | | |
|---|---|---|---|
| **MSDS Number** | **List No.** | **Issuing date** | **Last revised date** |
| - | PD1147 | 2015-03-30 | 2021-07-29 |

## 1. IDENTIFICATION

**1) Product name**

Iso-Paraffin M

**2) Recommended use of the chemical and restriction on use**

- Recommended use: Biocidal products
  22. 금속가공유
- Restrictions on use: Do not use for any other purpose.

**3) Details of the supplier of the safety data sheet**

○ **Manufacturer**

- Company name: GS Caltex Corporation
- Address: GS Tower, 508, Nonhyeon-ro, Gangnam-gu, Seoul, Korea
- Emergency telephone number: 1544-5151

## 2. HAZARDS IDENTIFICATION

**1) Classification of the product**

ASPIRATION HAZARD : Category 1

LONG-TERM HAZARDS TO THE AQUATIC ENVIRONMENT : Category 2

**2) Label elements**

○ **Hazard pictograms**

○ **Signal word**

Danger

○ **Hazard statements**

- H304 May be fatal if swallowed and enters airways.
- H411 Toxic to aquatic life with long lasting effects.

○ **Precautionary statements**

**1) Prevention**

- P273 Avoid release to the environment.

**2) Response**

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P331 Do not induce vomiting.
- P391 Collect spillage.

**3) Storage**

- P405 Store locked up.

**4) Disposal**

- P501 Dispose of contents/container to ....

**3) Other hazards**

○ **Product NFPA Level**

(※ 0-Lack, 1-Low, 2-Moderate, 3-High, 4-Very High)

| Product name | Health | Flammable | Reaction |
|---|---|---|---|
| Iso-Paraffin M | 1 | 2 | 0 |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | Trade names and Synonyms | CAS No. | EC No. | Contain Ratio(%) |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated light | Low odor paraffinic solvent;Deodorized kerosene | 64742-47-8 | 265-149-8 | 100 |

## 4. FIRST AID MEASURES

**1) Eye contact**

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.
- If eye irritation persists: Get medical advice/attention.

**2) Skin contact**

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes.
- If skin irritation occurs: Get medical advice/attention.

**3) Inhalation**

- Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- Do not induce vomiting.

**4) Ingestion**

- Do not use mouth-to-mouth method if victim ingested the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

**5) Indication of any immediate medical attention and special treatment needed**

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## 5. FIRE FIGHTING MEASURES

**1) Suitable (and unsuitable) extinguishing media**

- Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
- Use dry sand or earth to smother fire.
- High-pressure water (Unsuitable extinguishing media)
- Direct water (Unsuitable extinguishing media)

**2) Special hazards arising from the substance or mixture**

- Fire may produce irritating, corrosive and/or toxic gases.
- Heating may cause a fire or explosion.

**3) Special protective equipment and precautions for firefighters**

- Rescuers should put on appropriate protective gear.
- In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
- Eliminate all ignition sources if safe to do so.

## 6. ACCIDENTAL RELEASE MEASURES

**1) Health considerations and protective equipment**

- Clean up spills immediately, observing precautions in Protective Equipment section.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Please note that materials and conditions to be avoided.

**2) Environmental precautions**

- Large spill: Prevent entry into waterways, sewers, basements or confined areas.
- Avoid release to the environment.

**3) Methods and material for containment and cleaning up**

- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

## 7. HANDLING AND STORAGE

**1) Precautions for safe handling**

- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Avoid breathing vapors from heated material.
- Please note that materials and conditions to be avoided.
- Handling refer to engineering control/personal protection section.
- Use only outdoors or in a well-ventilated area.

**2) Conditions for safe storage (including any incompatibilities)**

- Please note that materials and conditions to be avoided.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Store in a well-ventilated place. Keep container tightly closed.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 1) Control parameters

| Chemical name | Exposure limits | ACGIH TLV | OSHA PEL | Biological limit values(BLV) |
|---|---|---|---|---|
| Distillates (petroleum), hydrotreated light | Not available | Not available | Not available | Not available |

### 2) Appropriate engineering controls

- Install local exhaust ventilation system.
- Check legal suitability of exposure level.

### 3) Personal protection equipment

○ **Respiratory protection**

- If exposure consentration of the material is lower than 100 ppm of the permitted exposure standards, Wear a respiratory protective device, equipped with an adequate filter by considering physicochemical properties of exposured particulate material ; such
- If exposure consentration of the paticle material is lower than 250 ppm of the permitted exposure standards, Wear a respiratory protective device, equipped with an adequate filter by considering physicochemical properties of exposured particulate material
- If exposure consentration of the particle material is lower than 500 ppm of the permitted exposure standards, Wear a respiratory protective device, equipped with an adequate filter by considering physicochemical properties of exposured particulate materia
- If exposure consentration of the particle material is lower than 10000 ppm of the permitted exposure standards, Wear a respiratory protective device, equipped with an adequate filter by considering physicochemical properties of exposured particulate mater
- If exposure consentration of the material is lower than 100000 ppm of the permitted exposure standards, Wear a respiratory protective device, equipped with an adequate filter by considering physicochemical properties of exposured particulate material ; su
- If exposure consentration of the material exceeds the permitted exposure standards, Wear European Standard EN 149 approved full or half face piece (with goggles) respireatory protective equipment.

○ **Eye protection**

- An eye wash unit and safety shower station should be available nearby work place.
- Wear breathable safety goggles to protect from vapour state organic material causing eye irritation or other disorder.

○ **Hand protection**

- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

○ **Body protection**

- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| Item | Input Value |
|---|---|
| Apperance | Liquid |
| Color | No Data |
| Smell | Petrochemical odor |
| Smell Threshold | No Data |
| pH (Numerical value) | No Data |
| Melting/Freezing Point | -58 ℃ |
| Boilling Point | 210 ~ 270 ℃ |
| Flash Point | 104 ℃ |
| Evaporating Rate | No Data |
| Flammability(Solid, Gas) | No Data |
| Explosibility Range | 5.5/0.6 % |
| Steam Pressure | 0.03~0.06 |
| Solubility | No Data |
| Vapor Density | 4.5 |
| Specific Gravity | 0.77~0.81 (15℃) |
| Distribution Coefficient | 3.3 ~ 6 (estimate) |
| SelfIgnition Temperature | 236 ℃ |
| Pyrolysis Temperature | No Data |
| Viscosity | 2.9 mm2/s (at 40℃) |
| Molecular Weight | No Data |

## 10. STABILITY AND REACTIVITY

**1) Chemical Stability and hazardous reactivity** - Can form explosive mixtures at temperatures at or above the flashpoint.
- Fire may produce irritating, corrosive and/or toxic gases.

**2) Conditions to avoid** - Ignition source(heat, spark, flame, friction, shock, contamination)

**3) Incompatible materials** - Combustibles

**4) Hazardous decomposition products** - During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

## 11. TOXICOLOGICAL INFORMATION

**1) Information on the likely routes of exposures**

○ **Inhalation**

- No inhalation effects through respiratory system.

○ **Skin contact**

- No effect on skin contact.

○ **Eye contact**

- No effect on eye contact.

○ **Ingestion**

- May be fatal if swallowed and enters airways.
- Absorbable through the inhalation

**2) Health hazard information**

○ **Acute toxicity**

*** Oral - Not classified (ATEmix > 2000 mg/kg)**

- Distillates (petroleum), hydrotreated light : rat(male/female); LD50 > 5000 mg/kg bw, no deaths (OECD TG 420, GLP) (read across: 68333-23-3) (ECHA)

*** Dermal - Not classified (ATEmix > 2000 mg/kg)**

- Distillates (petroleum), hydrotreated light : rabbit(male/female); LD50 > 2000 mg/kg bw, no deaths (OECD TG 402, GLP) (read across: 68333-23-3) (ECHA)

*** Inhalation(Gas) - Not applicable**

- Distillates (petroleum), hydrotreated light : Not applicable

*** Inhalation(Vapour) - Not classified (ATEmix > 20 mg/L)**

- Distillates (petroleum), hydrotreated light : rat(male/female); inhalation: vapour; LC50 > 5.28 mg/L air /4h, no deaths (OECD TG 403, GLP) (read across: 8008-20-6) (ECHA)

*** Inhalation(Dust, mist) - Not classified (ATEmix > 5 mg/L)**

- Distillates (petroleum), hydrotreated light : Not available

○ **Skin corrosion/Irritation : Not classified**

- Distillates (petroleum), hydrotreated light : rabbit; not irritating (EPA OTS 798.4470, GLP) (read across: Straight run kerosine (F-155)) (ECHA)

○ **Serious eye damage/irritation : Not classified**

- Distillates (petroleum), hydrotreated light : rabbit; not irritating (EPA OTS 798.4500, GLP) (read across: 68333-23-3) (ECHA)

○ **Respiratory sensitization : Not classified**

- Distillates (petroleum), hydrotreated light : Not available

○ **Skin sensitization : Not classified**

- Distillates (petroleum), hydrotreated light : guinea pig; not sensitising (OECD TG 406, GLP) (read across: 68333-23-3) (ECHA)

○ **Carcinogenicity : Not classified**

- Distillates (petroleum), hydrotreated light : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed

○ **Germ cell mutagenicity : Not classified**

- Distillates (petroleum), hydrotreated light : In vitro Bacterial Reverse Mutation Assay : negative (OECD TG 471) (read across: 8008-20-6) (ECHA), In Vitro Sister Chromatid Exchange Assay in Mammalian Cells : negative (OECD TG 479, GLP) (read across: 64742-81-0) (ECHA)

In vivo sister chromatid exchange assay : negative (female) / positive (male) (OECD TG 479) (ECHA)

○ **Reproductive toxicity : Not classified**

- Distillates (petroleum), hydrotreated light : rat(male/female); One-Generation Reproduction Toxicity Study; The study LOAEL for systemic effects is 1500 mg/kg/day and the NOAEL for systemic effects is 750 mg/kg/day, based on reduced body weight in dams and in pups. The LOAEL for adult males rats exposed to JP-8 orally was 750 mg/kg/day due to changes in clinical pathology, body weight, organ weights and the same irritation seen in female rats. The reproduction NOAEL was 3000 and 1500 mg/kg/day in males and females, respectively. (OECD TG 415, GLP) (read across: JP-8 jet fuel) (ECHA)
  rat; It can be concluded that the test substance is not toxic to development. (OECD TG 414) (read across: JP-8 jet fuel) (ECHA)

○ **Specific target organ toxicity (single exposure) : Not classified**

- Distillates (petroleum), hydrotreated light : oral; rat(male/female); All of the study animals exhibited one or more of the following clinical signs: nasal discharge, ocular discharge, abnormal stools, lethargy, stained coat, and alopecia. LD50 > 5000 mg/kg bw, no deaths (OECD TG 420, GLP) (read across: 68333-23-3) (ECHA)
  dermal; rabbit(male/female); At necropsy, dermal irritation at the test site was the only abnormal observation. LD50 > 2000 mg/kg bw, no deaths (OECD TG 402, GLP) (read across: 68333-23-3) (ECHA)
  inhalation: vapour; rat(male/female); During gross pathology observations, four sections of the lung were examined. The pathology report indicated that no significant histological alternations were seen. LC50 > 5.28 mg/L air /4h, no deaths (OECD TG 403, GLP) (read across: 8008-20-6) (ECHA)

○ **Specific target organ toxicity (repeated exposure) : Not classified**

- Distillates (petroleum), hydrotreated light : oral; rat(male/female); 90 days; The study LOAEL for systemic effects is 1500 mg/kg/day and the NOAEL for systemic effects is 750 mg/kg/day, based on reduced body weight in dams and in pups. The LOAEL for adult males rats exposed to JP-8 orally was 750 mg/kg/day due to changes in clinical pathology, body weight, organ weights and the same irritation seen in female rats. The reproduction NOAEL was 3000 and 1500 mg/kg/day in males and females, respectively. (OECD TG 408, GLP) (read across: JP-8 jet fuel) (ECHA)
  inhalation; rat(male/female); 90 days; 0, 500, or 1000 mg/m3; Male rats developed hydrocarbon-induced nephropathy and decreased body weight. Therefore, the LOAEL in male rats is 500 mg/m3. There were no significant treatment-related effects in female rats; therefore, the NOAEL in female rats is greater than or equal to 1000 mg/m3. However, effects seen in male rats were due to alpha-2u globulin-mediated nephropathy, and, as such, are not relevant to human exposure. (OECD TG 413) (read across: JP-8 jet fuel) (ECHA)

○ **Aspiration hazard : Category 1**

- Distillates (petroleum), hydrotreated light : 1 to 2.4 cSt at 40°C (ECHA) & hydrocarbons

## 12. ECOLOGICAL INFORMATION

**1) Ecotoxicity**

- Acute toxicity : Not classfied (ATEmix>1mg/L)
- LONG-TERM HAZARDS TO THE AQUATIC ENVIRONMENT : Category 2

○ **Acute (short-term) aquatic hazard:**

**Fish**

- Distillates (petroleum), hydrotreated light : 96h-LL50(Oncorhynchus mykiss) = 2 - 5 mg/L (OECD TG 203, GLP) (ECHA)

**Invertebrates**

- Distillates (petroleum), hydrotreated light : 48h-EL50(Daphnia magna) = 1.4 mg/L (OECD TG 202, GLP) (ECHA)

**Aquatic algae**

- Distillates (petroleum), hydrotreated light : 72h-ErL50(Pseudokirchneriella subcapitata) = 1-3 mg/L (OECD TG 201, GLP) (ECHA)

○ **Chronic (Long-term) aquatic hazard:**

**Fish**

- Distillates (petroleum), hydrotreated light : Not available

**Invertebrates**

- Distillates (petroleum), hydrotreated light : 21d-NOEL(Daphnia magna) = 0.48 mg/L (OECD TG 211, GLP) (ECHA)

**Aquatic algae**

- Distillates (petroleum), hydrotreated light : Not available

**2) Persistence and degradability**

○ **Persistence**

- Distillates (petroleum), hydrotreated light : log Kow = 6.10 (experimental) (EPISUITE)

○ **Degradability**

- Distillates (petroleum), hydrotreated light : Not available

**3) Bioaccumulative potential**

○ **Bioaccumulation**

- Distillates (petroleum), hydrotreated light : BCF = 207.7 (estimated) (EPISUITE)

○ **Biodegradation**

- Distillates (petroleum), hydrotreated light : 58.6 % degradation after 28d; not readily biodegradable (OECD TG 301F) (ECHA)

**4) Mobility in soil**

- Distillates (petroleum), hydrotreated light : Koc=196700 (EPISUITE)

**5) Hazard to the ozone layer**

- Distillates (petroleum), hydrotreated light : Not applicable

**6) Other adverse effects**

- Distillates (petroleum), hydrotreated light : Not classified

## 13. DISPOSAL CONSIDERATIONS

**1) Disposal methods**

- Waste must be disposed of in accordance with federal, state and local environmental control regulation.

**2) Special precaution for disposal**

- Consider the required attentions in accordance with waste treatment management regulation.

## 14. TRANSPORT INFORMATION

**1) UN No.**

- Not applicable

**2) Proper shipping name**

- Not applicable

**3) Transport hazard class(es)**

- Not applicable

**4) Packing group**

- Not applicable

**5) Marine pollutant**

- Not applicable

**6) Special safety response for transportation or transportation measure**

- Types of Emergency Measures in Case of Fire : Not applicable
- Types of Emergency Measures in Leakage : Not applicable
- Transport regulations according to ADR/RID, AND, IMDG and ICAO/IATA : Not applicable

## 15. REGULATORY INFORMATION

**EINECS( or ELINCS)**

- Distillates (petroleum), hydrotreated light : European EINECS phase-in substance

**EU CLP (CLASSIFICATION) - PRODUCT : Not applicable**

- Distillates (petroleum), hydrotreated light : Not applicable

**Substances restricted under REACH**

- Distillates (petroleum), hydrotreated light : Not applicable

**Substances subject to authorization under REACH**

**REACH SVHC List**

**Korea**

○ **Occupational Safety and Health Act**

- Distillates (petroleum), hydrotreated light : Harmful agents subject to work environment monitoring, Harmful agents subject to workers requiring health examination

○ **K-REACH**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **Chemical Control Act in Korea**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **Safety Control of Dangerous Substances Act**

- Distillates (petroleum), hydrotreated light : Not applicable

**U.S.A**

○ **US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **CERCLA Designation of hazardous substances (40 CFR 302.4)**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **CERCLA Section 302 regulation**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **CERCLA Section 304 regulation**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **CERCLA Section 313 regulation**

- Distillates (petroleum), hydrotreated light : Not applicable

**Interntional Convention on Environment**

○ **Rotterdam Convention list**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **Stockholm Convention list**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **Montreal Protocol list**

- Distillates (petroleum), hydrotreated light : Not applicable

**National Inventory**

○ **Korea**

- Distillates (petroleum), hydrotreated light : Not applicable

○ **U.S.A**

- Distillates (petroleum), hydrotreated light : US TSCA phase-in substance

○ **China**

- Distillates (petroleum), hydrotreated light : China phase-in substance

○ **Japan**

- Distillates (petroleum), hydrotreated light : Not applicable

## 16. OTHER INFORMATION

**1) Reference**

- Sources of information used in preparing this SDS included one or more of the following: Internal technical data, data from OECD eChemPortal, ECHA, NITE, TOXNET, IPCS and KOSHA search results.

**2) Issue Date**

- 2015-03-30

**3) Revision number and Last date revised**

○ **Number of revised**

- 3

○ **Date of last revision**

- 2021-07-28

○ **Last Revision History**

- .

**4) Other**

- The information contained in the Safety Data Sheet is at the date of its issuance to the best of our knowledge correct according to the data available to us. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of

this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.