SDS(Safety Data Sheet)

Product	Iso-Paraffin G		
MSDS Number	List No.	Issuing date	Last revised date
-	PD1144	2021-07-29	2021-07-29

1. IDENTIFICATION

1) Product name

Iso-Paraffin G

2) Recommended use of the chemical and restriction on use

- Recommended use: Metal working fluids(MWFs)
- 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

FLAMMABLE LIQUIDS : Category 3

SKIN CORROSION/IRRITATION : Category 2

ASPIRATION HAZARD : Category 1

LONG-TERM HAZARDS TO THE AQUATIC ENVIRONMENT : Category 3

2) Label elements

○ **Hazard pictograms**

○ **Signal word**

Danger

○ **Hazard statements**

- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H412 Harmful to aquatic life with long lasting effects.

○ **Precautionary statements**

1) Prevention

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.

- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
- P242 Use non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash ... thoroughly after handling.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

2) Response

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302 + P352 IF ON SKIN: Wash with plenty of water/cleansing agent.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P321 Specific treatment (see section 5).
- P331 Do not induce vomiting.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use manufacturer/supplier or the competent authority to specify appropriate media for extinction.

3) Storage

- P403 + P235 Store in a well-ventilated place. Keep cool.
- 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 G	1	3	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Trade names and Synonyms	CAS No.	EC No.	Contain Ratio(%)
Naphtha (petroleum), hydrotreated heavy	Naphtha	64742-48-9	265-150-3	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.

- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- If skin irritation occurs: Get medical advice/attention.
- Take off immediately all contaminated clothing and wash it before reuse.

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.
- For mixtures containing alcohol or polar solvent: Alcohol-resistant foam
- High-pressure water (Unsuitable extinguishing media)
- Direct water (Unsuitable extinguishing media)

2) Special hazards arising from the substance or mixture

- Can form explosive mixtures at temperatures at or above the flashpoint.
- Fire may produce irritating, corrosive and/or toxic gases.
- Flammable liquid and vapour.
- Heating may cause a fire or explosion.

3) Special protective equipment and precautions for firefighters

- Rescuers should put on appropriate protective gear.
- Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- 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).
- All equipment used when handling the product must be grounded.
- 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

- Dike and collect water used to fight fire.
- 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

- Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Avoid prolonged or repeated contact with skin.
- Avoid breathing vapors from heated material.
- All equipment used when handling the product must be grounded.
- Please note that materials and conditions to be avoided.
- Handling refer to engineering control/personal protection section.
- Wash thoroughly after handling.
- 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)
Naphtha (petroleum), hydrotreated heavy	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	No Data
Boilling Point	158 ~ 190 °C

Flash Point	40 °C
Evaporating Rate	No Data
Flammability(Solid, Gas)	No Data
Explosibility Range	6/0.7 %
Steam Pressure	0.1~0.3
Solubility	No Data
Vapor Density	>1
Specific Gravity	0.74~0.77
Distribution Coefficient	2.1 ~ 6 (추정치)
SelfIgnition Temperature	365 °C
Pyrolysis Temperature	No Data
Viscosity	1.2 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.
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- 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**

- Causes skin irritation.
- Absorbable through the skin

○ **Eye contact**

- Causes serious eye irritation.
- Possible exposure through the eye

○ **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)**

- Naphtha (petroleum), hydrotreated heavy : rat(male/female); LD50 > 5000 ㎎/㎏ bw, no deaths (OECD TG 401, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : rabbit(male/female); LD50 > 2000 ㎎/㎏ bw, no deaths (OECD TG 402, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : Not applicable

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

- Naphtha (petroleum), hydrotreated heavy : rat(male/female); inhalation: vapour; LC50 > 5.610 mg/L air /4h, no deaths (OECD TG 403, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : Not available

○ **Skin corrosion/Irritation : Category 2 (SKIN IRRITATION Cat.2)**

- Naphtha (petroleum), hydrotreated heavy : rabbit; irritating (OECD TG 404, GLP) (read across: API 91-01 unleaded gasoline) (ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : rabbit; not irritating (OECD TG 405, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

○ **Respiratory sensitization : Not classified**

- Naphtha (petroleum), hydrotreated heavy : Not available

○ **Skin sensitization : Not classified**

- Naphtha (petroleum), hydrotreated heavy : guinea pig; not sensitising (OECD TG 406, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

○ **Carcinogenicity : Not classified**

- Naphtha (petroleum), hydrotreated heavy : EU CLP 1272/2008 : Carc. 1B (Note P : The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene(EINECS No 200-753-7).

○ **Germ cell mutagenicity : Not classified**

- Naphtha (petroleum), hydrotreated heavy : EU CLP 1272/2008 : Muta. 1B : (Note P : The classification as a mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene(EINECS No 200-753-7).
  In vitro Bacterial Reverse Mutation Assay : negative (read across: low viscosity liquid hydrocarbon) (ECHA), In Vitro Sister Chromatid Exchange Assay in Mammalian Cells : negative (read across) (ECHA)
  In vivo micronucleus assay : negative (EPA OPPTS 870.5395, GLP) (ECHA)

○ **Reproductive toxicity : Not classified**

- Naphtha (petroleum), hydrotreated heavy : rat(male/female); 0, 5000, 10000, 20000 mg/m3; two-generation reproductive toxicity; NOAEC(reproductive toxicity) >= 20000 mg/m3 air (No adverse effects on reproductive parameters.) (OECD TG 416, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

rat; 30, 125 and 500 mg/kg/day; NOAEL(teratogenicity, maternal toxicity) = 500 mg/kg bw/day (OECD TG 414) (read across: low viscosity liquid hydrocarbon) (ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : oral; rat(male/female); No lesions were seen in any animal. LD50 > 5000 ㎎/㎏ bw, no deaths (OECD TG 401, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
  dermal; rabbit(male/female); No visible lesions, with the exception of the dermal effects. LD50 > 2000 ㎎/㎏ bw, no deaths (OECD TG 402, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
  inhalation: vapour; rat(male/female); Three of the five male rats exhibited lungs with small round lesions. There were no other visible gross pathological lesions observed on any of the animals at necropsy. LC50 > 5.610 mg/L air /4h, no deaths (OECD TG 403, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : inhalation; rat and mouse(male/female); 322, 1402, 9869 mg/m3; Combined Chronic Toxicity / Carcinogenicity Studies; The NOAEC for unleaded gasoline vapor is 1402 mg/m3 under the test conditions of this study, based on decreased body weight gain in mice and rats at 9869 mg/m3. (OECD TG 453) (read across: low viscosity liquid hydrocarbon) (ECHA)

○ **Aspiration hazard : Category 1**

- Naphtha (petroleum), hydrotreated heavy : <1 mm2/s (37.8°C) (ECHA) & hydrocarbons

12. ECOLOGICAL INFORMATION

1) Ecotoxicity

- Acute toxicity : Not classfied (ATEmix>1mg/L)
- LONG-TERM HAZARDS TO THE AQUATIC ENVIRONMENT : Category 3

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

Fish

- Naphtha (petroleum), hydrotreated heavy : 96h-LL50(Pimephales promelas) = 8.2 mg/L (EPA 66013-75-009, GLP) (ECHA)

Invertebrates

- Naphtha (petroleum), hydrotreated heavy : 48h-EL50(Daphnia magna) = 4.5 mg/L (OECD TG 202, GLP) (ECHA)

Aquatic algae

- Naphtha (petroleum), hydrotreated heavy : 72h-ErL50(Pseudokirchneriella subcapitata) = 3.1 mg/L (OECD TG 201, GLP) (ECHA)

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

Fish

- Naphtha (petroleum), hydrotreated heavy : Not available

Invertebrates

- Naphtha (petroleum), hydrotreated heavy : 21d-NOELR(Daphnia magna) = 2.6 mg/L (OECD TG 211, GLP) (ECHA)

Aquatic algae

- Naphtha (petroleum), hydrotreated heavy : 72h-NOErLR(Pseudokirchneriella subcapitata) = 0.5 mg/L (OECD TG 201, GLP) (ECHA)

2) Persistence and degradability

○ **Persistence**

- Naphtha (petroleum), hydrotreated heavy : log Kow = 5.65 (experimental) (EPISUITE)

○ **Degradability**

- Naphtha (petroleum), hydrotreated heavy : The chemical constituents that comprise the naphtha category consist entirely of carbon and hydrogen and do not contain hydrolyzable groups. As such, they have a very low potential to hydrolyze. (ECHA)

3) Bioaccumulative potential

○ **Bioaccumulation**

- Naphtha (petroleum), hydrotreated heavy : BCF = 104.9 (estimated) (EPISUITE)

○ **Biodegradation**

- Naphtha (petroleum), hydrotreated heavy : 90.35 % degradation after 28d; inherently biodegradable (ISO/DIS 14593) (ECHA)

4) Mobility in soil

- Naphtha (petroleum), hydrotreated heavy : Koc=80030 (EPISUITE)

5) Hazard to the ozone layer

- Naphtha (petroleum), hydrotreated heavy : Not applicable

6) Other adverse effects

- Naphtha (petroleum), hydrotreated heavy : 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.

- 3295

2) Proper shipping name

- HYDROCARBONS, LIQUID, N.O.S.

3) Transport hazard class(es)

- 3

4) Packing group

- III

5) Marine pollutant

-

6) Special safety response for transportation or transportation measure

- Types of Emergency Measures in Case of Fire : F-E
- Types of Emergency Measures in Leakage : S-D

15. REGULATORY INFORMATION

EINECS(or ELINCS)

- Naphtha (petroleum), hydrotreated heavy : European EINECS phase-in substance

EU CLP (CLASSIFICATION) - PRODUCT : Not applicable

- Naphtha (petroleum), hydrotreated heavy : Not applicable

Substances restricted under REACH

- Naphtha (petroleum), hydrotreated heavy : Substances restricted under REACH

Substances subject to authorization under REACH

REACH SVHC List

Korea

○ **Occupational Safety and Health Act**

- Naphtha (petroleum), hydrotreated heavy : Substance subject to submission of process safety reports

○ **K-REACH**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Chemical Control Act in Korea**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Safety Control of Dangerous Substances Act**

- Naphtha (petroleum), hydrotreated heavy : Dangerous substance

U.S.A

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

- Naphtha (petroleum), hydrotreated heavy : Not applicable

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

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **CERCLA Section 302 regulation**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **CERCLA Section 304 regulation**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **CERCLA Section 313 regulation**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

Interntional Convention on Environment

○ **Rotterdam Convention list**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Stockholm Convention list**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Montreal Protocol list**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

National Inventory

○ **Korea**

- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **U.S.A**

- Naphtha (petroleum), hydrotreated heavy : US TSCA phase-in substance

○ **China**

- Naphtha (petroleum), hydrotreated heavy : China phase-in substance

○ **Japan**

- Naphtha (petroleum), hydrotreated heavy : 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

-

3) Revision number and Last date revised

○ **Number of revised**

- 2

○ **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.