GS Caltex

SDS(Safety Data Sheet)

Product	Techsol-2	
List No.	Issuing date	Last revised date
AR0008	2008-07-25	2020-07-02

1. IDENTIFICATION

1) Product name

Techsol-2

2) Recommended use of the chemical and restriction on use

- Recommended use (Others)
- 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 2

CARCINOGENICITY : Category 1A

GERM CELL MUTAGENICITY : Category 1B

ASPIRATION HAZARD : Category 1

2) Label elements

○ **Hazard pictograms**

○ **Signal word**

Danger

○ **Hazard statements**

- H225 Highly flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H340 May cause genetic defects.
- H350 May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

○ **Precautionary statements**

1) Prevention

- P201 Obtain special instructions before use.

- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

2) Response

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- P331 Do not induce vomiting.
- 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
Techsol-2	0	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	99 ~ 100
Benzene	Benzol ; Benzole ; Bicarburet of hydrogen ; Coal naphtha ; Clohexatriene ; Phene ; Phenyl hydride ; Polystream ; Pyrobenzol ; Pyrobenzole ; Cyclohexatriene ; Benzine ; 1,3,5-Cyclohexatriene ;	71-43-2	200-753-7	0 ~ 1

4. FIRST AID MEASURES

1) Eye contact - Get medical attention immediately.

- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- 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

- Get medical attention immediately.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- 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.
- Wash skin with soap and water.
- If skin irritation occurs: Get medical advice/attention.

3) Inhalation

- Move victim to fresh air.
- Get medical attention immediately.
- Give artificial respiration if victim is not breathing.
- 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.
- Keep victim warm and quiet.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- IF exposed or concerned: Get medical advice/attention.
- Do not induce vomiting.

4) Ingestion

- Get medical attention immediately.
- 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

- Exposures require specialized first aid with contact and medical follow-up.
- 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.
- Small fire: Dry chemical (Suitable extinguishing media)

- Small fire: Water spray (Suitable extinguishing media)
- Small fire: Regular foam (Suitable extinguishing media)
- For mixtures containing alcohol or polar solvent: Alcohol-resistant foam (Suitable extinguishing media)
- For mixtures containing alcohol or polar solvent: Alcohol-resistant foam
- Direct water (Unsuitable extinguishing media)
- Large fire: Water spray/fog (Suitable extinguishing media)
- Large fire: Foam (Suitable 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.
- Highly 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.
- Cautions ; Most of liquids are lighter than water
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Substance may be transported hot.
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
- 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.
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Stop leak if you can do it without risk.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- A vapor suppressing foam may be used to reduce vapors.
- Please note that materials and conditions to be avoided.

2) Environmental precautions

- Runoff may cause pollution.
- Large spill: Prevent entry into waterways, sewers, basements or confined areas.

- Prevent entry into waterways, sewers, basements or confined areas.

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.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Use clean non-sparking tools to collect absorbed material.

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 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.
- Cuation: Heat
- Measure atmospheric oxygen concentration and ventilate the area during the operation since low-closed area can cause oxygen deficiency.
- 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

Benzene	TWA : 0.5 ppm STEL : 2.5 ppm	TWA, 0.5 ppm (1.6 mg/m3) STEL, 2.5 ppm (8 mg/m3)	Not available	25 µg/g creatinine Medium: urine Time: end of shift Parameter: S-Phenylmercapturic acid (background); 500 µg/g creatinine Medium: urine Time: end of shift Parameter: t,t-Muconic acid (background)

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	Transparent
Smell	Unique Odor
Smell Threshold	Not available
pH (Numerical value)	5.4
Melting/Freezing Point	Not available
Boilling Point (Numerical value)	80 ℃ ~ 160 ℃
Flash Point (Numerical value)	20 ℃
Evaporating Rate	Not available
Flammability(Solid, Gas)	Not available
Explosibility Range	LEL : 1.0%, UEL : 5.3% %
Steam Pressure	2.01 psi @ 37.8℃
Solubility (Numerical value)	Not available
Vapor Density	Not available
Specific Gravity	0.74 @ 15℃
Distribution Coefficient	3.3~6
SelfIgnition Temperature	Not available
Pyrolysis Temperature	Not available
Viscosity (Numerical value)	0.8977 mm2/s (at 40℃)
Molecular Weight	Not available

10. STABILITY AND REACTIVITY

1) Chemical Stability and hazardous reactivity
- Can form explosive mixtures at temperatures at or above the flashpoint.
- Containers may explode when heated.
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- Runoff may create fire or explosion hazard.
- Fire may produce irritating, corrosive and/or toxic gases.

2) Conditions to avoid - Heat

- Ignition source(heat, spark, flame)
- 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.
- Irritating, corrosive and/or toxic gas.

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)**

- Naphtha (petroleum), hydrotreated heavy : rat(male/female); LD50 > 5000 ㎎/㎏ bw, no deaths (OECD TG 401, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
- Benzene : Rat(Male); LD50 > 2000 mg/kg (OECD TG 401)(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)
- Benzene : Rabbit(Male); LD50 > 9400 mg/kg (OECD Guideline 402)(ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : Not applicable
- Benzene : 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)
- Benzene : Rat(Male) ;inhalation: Vapours, LC50 = 43.767 mg/L 4h (OECD TG 403)(ECHA)

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

- Naphtha (petroleum), hydrotreated heavy : Not available
- Benzene : Not available

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

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

- Benzene : Rabbit; Irritating (OECD Guideline 404)(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)
- Benzene : Rabbit; irritating (ECHA)

○ Respiratory sensitization : Not classified

- Naphtha (petroleum), hydrotreated heavy : Not available
- Benzene : 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)
- Benzene : Guinea pig; not sensitizing (OECD TG 406)(ECHA)

○ Carcinogenicity : Category 1A

- 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).
- Benzene : IARC : Group 1 EU CLP 1272/2008 : Car. 1A ACGIH : A1 NTP : K

○ Germ cell mutagenicity : Category 1B

- 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 Bacteri
- Benzene : In vitro bacterial reverse mutation assay: negative (OECD TG 471) (ECHA); in vitro Chinese Hamster lung fibroblast cell Chromosome Aberration Test (EPA OPPTS 870.5375): positive (ECHA) iIn vivo Mouse(

○ 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)
- Benzene : rat(male/female); inhalation : vapor; one-generation reproductive toxicity; 0, 3.2, 32, 320, 960 mg/m3; NOAEC = 960 mg/m³ air; No treatment related effects were seen in pup survival or at gross post m

○ 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 mg/kg bw, no deaths (OECD TG 401, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA) dermal; rabbit(male/female); No visi
- Benzene : Not available

○ 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 thi
- Benzene : mouse(male/female); inhalation : vapor; 2-16 weeks; 0, 10, 25, 100, 300, 400 ppm; NOAEC = 10 ppm; causes hematotoxicity to mouse (ECHA)

○ **Aspiration hazard : Category 1**

- Naphtha (petroleum), hydrotreated heavy : <1 mm2/s (37.8°C) (ECHA) & hydrocarbons
- Benzene : <= 20.5 mm2/s & hydrocarbons (ECHA)

12. ECOLOGICAL INFORMATION

1) Ecotoxicity

- Acute toxicity : Not classfied (ATEmix>1mg/L)
- Chronic toxicity : Not classfied

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

Fish

- Benzene : 96h-LC50(Oncorhynchus mykiss) = 5.3 mg/L (OECD Guideline 203)(ECHA)
- Naphtha (petroleum), hydrotreated heavy : 96h-LL50(Pimephales promelas) = 8.2 mg/L (EPA 66013-75-009, GLP) (ECHA)

Invertebrates

- Benzene : 48h-EC50(Daphnia magna) = 10 mg/L (OECD Guideline 202)(ECHA)
- Naphtha (petroleum), hydrotreated heavy : 48h-EL50(Daphnia magna) = 4.5 mg/L (OECD TG 202, GLP) (ECHA)

Aquatic algae

- Benzene : 72h-ErC50(Pseudokirchneriella subcapitata) = 100 mg/L (OECD Guideline 201, GLP)(ECHA)
- Naphtha (petroleum), hydrotreated heavy : 72h-ErL50(Pseudokirchneriella subcapitata) = 3.1 mg/L (OECD TG 201, GLP) (ECHA)

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

Fish

- Benzene : 32d-LOEC(Pimephales promelas) = 1.6 mg/L (ASTM 1984)(ECHA)
- Naphtha (petroleum), hydrotreated heavy : Not available

Invertebrates

- Benzene : 7d-NOEC(Ceriodaphnia dubia) = 3 mg/L (US EPA 600/4-91-003)(ECHA)
- Naphtha (petroleum), hydrotreated heavy : 21d-NOELR(Daphnia magna) = 2.6 mg/L (OECD TG 211, GLP) (ECHA)

Aquatic algae

- Benzene : Not available
- Naphtha (petroleum), hydrotreated heavy : 72h-NOErLR(Pseudokirchneriella subcapitata) = 0.5 mg/L (OECD TG 201, GLP) (ECHA)

2) Persistence and degradability

○ **Persistence**

- Benzene : log Kow = 2.13 (ECHA)
- Naphtha (petroleum), hydrotreated heavy : log Kow = 5.65 (experimental) (EPISUITE)

○ **Degradability**

- Benzene : calculated phototransformation half-life in air : 13.4days (ECHA)
- 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**

- Benzene : BCF = 13 (ECHA)
- Naphtha (petroleum), hydrotreated heavy : BCF = 104.9 (estimated) (EPISUITE)

○ **Biodegradation**

- Benzene : 96% degradation after 28days; readily biodegradable (ECHA)
- Naphtha (petroleum), hydrotreated heavy : 90.35 % degradation after 28d; inherently biodegradable (ISO/DIS 14593) (ECHA)

4) Mobility in soil

- Benzene : Koc = 134 (ECHA)
- Naphtha (petroleum), hydrotreated heavy : Koc=80030 (EPISUITE)

5) Hazard to the ozone layer

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

6) Other adverse effects

- Benzene : Not available
- Naphtha (petroleum), hydrotreated heavy : Not available

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.

- 1268

2) Proper shipping name

- PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S

3) Transport hazard class(es)

- 3

4) Packing group

- I

5) Marine pollutant

- Not applicable

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-E

15. REGULATORY INFORMATION

EINECS(or ELINCS)

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

EU CLP (CLASSIFICATION) - PRODUCT : Not applicable

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

Substances restricted under REACH

- Benzene : 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**

- Benzene : Substance subject to occupational exposure limits, Substance subject to permissible exposure limits, Hazardous substance subject to control, Special management substance, Harmful agents subject to work environment monitoring(Measurement cycle: 1 Year), Harmful agents subject to workers requiring health examination, Substance subject to submission of process safety reports
- Naphtha (petroleum), hydrotreated heavy : Substance subject to submission of process safety reports

○ **K-REACH**

- Benzene : Phase-in Substances subject to Registration, Substance subject to intensive control (2019), Phase-in Substances
- Naphtha (petroleum), hydrotreated heavy : Phase-in Substances

○ **Chemical Control Act in Korea**

- Benzene : Toxic substance, Substance requiring preparation for accidents, List of substance subjected to the PRTR
- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Safety Control of Dangerous Substances Act**

- Benzene : Dangerous substance
- Naphtha (petroleum), hydrotreated heavy : Not applicable

U.S.A

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

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

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

- Benzene : US management information(CERCLA regulation)
- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **CERCLA Section 302 regulation**

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **CERCLA Section 304 regulation**

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **CERCLA Section 313 regulation**

- Benzene : US management information(CERCLA Section 313 regulation)

- Naphtha (petroleum), hydrotreated heavy : Not applicable

Interntional Convention on Environment

○ **Rotterdam Convention list**

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Stockholm Convention list**

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

○ **Montreal Protocol list**

- Benzene : Not applicable
- Naphtha (petroleum), hydrotreated heavy : Not applicable

National Inventory

○ **Korea**

- Benzene : Phase-in Substances
- Naphtha (petroleum), hydrotreated heavy : Phase-in Substances

○ **U.S.A**

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

○ **China**

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

○ **Japan**

- Benzene : Japan ENCS phase-in substance
- 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

- 2008-07-25

3) Revision number and Last date revised

○ **Number of revised**

- 6

○ **Date of last revision**

- 2020-07-02

○ **Last Revision History**

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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.