SDS(Safety Data Sheet)

Product	Techsol-100		
MSDS Number	**List No.**	**Issuing date**	**Last revised date**
AA03534-0000000405	AR0011	2008-07-25	2024-05-09

1. IDENTIFICATION

1) Product name

Techsol-100

2) Recommended use of the chemical and restriction on use

- Recommended use: Others / 기타
- 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
SERIOUS EYE DAMAGE/EYE IRRITATION : Category 2
SPECIFIC TARGET ORGAN TOXICITY FOLLOWING SINGLE EXPOSURE : Category 3(Narcotic effects)
SPECIFIC TARGET ORGAN TOXICITY FOLLOWING REPEATED EXPOSURE : 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.
- H319 Causes serious eye irritation.

- H336 May cause drowsiness or dizziness.
- H373 May cause damage to organs through prolonged or repeated exposure. (inhalation)
- 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.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash ... thoroughly after handling.
- 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/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.
- P304 + P340 IF INHALED: Remove 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.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.
- P321 Specific treatment (see section 5).
- P331 Do not induce vomiting.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P337 + P313 If eye irritation persists: 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 + P233 Store in a well-ventilated place. Keep container tightly closed.
- 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-100	2	2	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Trade names and Synonyms	CAS No.	EC No.	Contain Ratio(%)
Solvent naphtha (petroleum), light arom.	Naphtha	64742-95-6	265-199-0	100
* Contains the following substances				
Xylene	Methyltoluene;Xylol	1330-20-7	215-535-7	5
Trimethyl benzene	Benzene, trimethyl (isomers) ; C9 aromatic hydrocarbon fraction ; Trimethyl benzene	25551-13-7	247-099-9	50

4. FIRST AID MEASURES

1) Eye contact

- Get medical attention immediately.
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- 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.
- Immediately call a POISON CENTER or doctor/physician.
- 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.
- IF exposed or concerned: Get medical advice/attention.
- 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

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

attention and special treatment needed

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

- Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to

handling

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)
Trimethyl benzene	TWA : 25 ppm	TWA 10 ppm	Not available	Not available
Solvent naphtha (petroleum), light arom.	TWA : 0.8 mg/m3	Not available	Not available	Not available
Xylene	TWA : 100 ppm STEL : 150 ppm	TWA 20 ppm	PEL: 100 ppm	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids

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 adequ ate filter by considering physicochemical properties of exposured particulate materi al ; such
- If exposure consentration of the paticle material is lower than 250 ppm of the per mitted 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 particul ate 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 particul ate mater
- If exposure consentration of the material is lower than 100000 ppm of the permitt ed exposure standards, Wear a respiratory protective device, equipped with an ade quate filter by considering physicochemical properties of exposured particulate ma terial ; su
- If exposure consentration of the material exceeds the permitted exposure stand ards, Wear European Standard EN 149 approved full or half face piece (with gogg les) 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	아로마틱석유냄새
Smell Threshold	No Data
pH (Numerical value)	No Data
Melting/Freezing Point	No Data
Boilling Point	155 ~ 181 ℃
Flash Point	44.5 ℃
Evaporating Rate	23
Flammability(Solid, Gas)	No Data
Explosibility Range	상한 7.0/하한 1.0 %
Steam Pressure	5.6
Solubility	No Data
Vapor Density	4.3

Specific Gravity	0.86~0.88
Distribution Coefficient	No Data
SelfIgnition Temperature	>450
Pyrolysis Temperature	No Data
Viscosity	0.88 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)**

- Trimethyl benzene : rat; LD50 = 8970 mg/kg bw (HSDB)
- Solvent naphtha (petroleum), light arom. : rat(male/female); LD50 > 5000 mg/kg bw, no deaths (OECD TG 401, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
- Xylene : LD50(rat, male)=3,523 mg/kg bw (mixed isomers: 60.2% m-xylene, 13.6% p-xylene, 9.1% o-xylene, and 17.0% ethylbenzene) (EU Method B.1) (ECHA)

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

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : rabbit(male/female); LD50 > 2000 ㎎/kg bw, no deaths (OECD TG 402, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
- Xylene : rabbit(male); LD50 = 12126 mg/kg (read across: m-xylene) (ECHA)

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

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

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

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : 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)
- Xylene : 4h-LC50(rat)=4,550 ppm(unit conversion: 4h-LC50(rat)=19.71 mg/L (HSDB)

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

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : Not available
- Xylene : Not available

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

- Trimethyl benzene	: Liquid trimethyl benzene was a primary skin irritant. (HSDB)
- Solvent naphtha (petroleum), light arom.	: rabbit; irritating (OECD TG 404, GLP) (read across: API 91-01 unleaded gasoline) (ECHA)
- Xylene	: The skin corrosion potential was determined by exposing the intact skin of six rabbits to p-xylene for four hours. The sites of application were not destroyed or changed irreversibly during or after the exposure. CHEVRON PARAXYLENE 99% was considered not to be corrosive to the intact skin of rabbits. primary dermal irritation index (PDII) : 3 (EU Method B.4) (ECHA)

○ **Serious eye damage/irritation : Category 2 (EYE IRRITATION Cat. 2)**

- Trimethyl benzene	: Irritates the eyes (HSDB)
- Solvent naphtha (petroleum), light arom.	: rabbit; not irritating (OECD TG 405, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
- Xylene	: The available data indicate that mixed xylene and the individual isomers (m-, o- and p-xylene) should be considered to be irritating to skin, eyes and the respiratory tract. : induces serious eye irritation. (ECHA)

○ **Respiratory sensitization : Not classified**

- Trimethyl benzene	: Not available
- Solvent naphtha (petroleum), light arom.	: Not available
- Xylene	: Not available

○ **Skin sensitization : Not classified**

- Trimethyl benzene	: Not available
- Solvent naphtha (petroleum), light arom.	: guinea pig; not sensitising (OECD TG 406, GLP) (read across: low viscosity liquid hydrocarbon) (ECHA)
- Xylene	: mouse; not sensitising (OECD TG 429, GLP) (ECHA)

○ **Carcinogenicity : Not classified**

- Trimethyl benzene : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed
- Solvent naphtha (petroleum), light arom. : 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).
- Xylene : The key chronic study was conducted by NTP (1986). The study comprises the oral gavage administration of mixed xylenes(60.2% m-xylene, 13.6% p-xylene, 9.1% o-xylene, and 17% ethylbenzene) to rats (0, 250, or 500 mg/kg/day) and mice (0, 500 or 1000 mg/kg/day) for 5 days/week for 103 weeks. There was no evidence of carcinogenicity. No studies are available regarding cancer in animals exposed via inhalation to mixed xylene or the individual xylene isomers. (EU Method B.32) (ECHA)
  IARC, OSHA, NTP, IRIS, ACGIH, EU CLP 1272/2008 : not listed
  ACGIH: A4

○ **Germ cell mutagenicity : Not classified**

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : 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)
- Xylene : in vitro mammalian chromosome aberration test: negative (EU Method B.10) (ECHA), In vitro sister chromatid exchange assay in mammalian cells : negative (EU Method B.19) (ECHA)
  In vivo rodent dominant lethal assay: negative (OECD TG 478) (mixed xylenes) (ECHA)

○ **Reproductive toxicity : Not classified**

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : 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)
- Xylene : 500 ppm mixed xylene (administered for 6 hours per day for 131 days prior to mating, during mating and continuing through gestation and lactation) is a NOAEC for systemic and reproductive toxicity. (ECHA)
  Overall it is concluded that xylene isomers are not developmental toxicants. (OECD TG 414) (ECHA)

○ **Specific target organ toxicity (single exposure) : Category 3(Narcotic effects),구분 3(마취 영향)**

- Trimethyl benzene : Central nervous systems might be affected. (HSDB)
- Solvent naphtha : oral; rat(male/female); No lesions were seen in any animal. LD50 > 5000 ㎎/㎏

(petroleum), light arom. 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 ㎎/kg 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)

- Xylene : inhalation; Clinical observations including body tremors suggestive of CNS involvement were seen at all concentrations during and after exposure, on the day of exposure. (ECHA)

○ **Specific target organ toxicity (repeated exposure) : Category 2,구분 2**

- Trimethyl benzene : By the repeated inhalation exposures there are lung irritation or chronic bronchitis, coagulation effects, and the effects on the central nerves system such as headaches and nervousness etc., it was classified into Category 2 all, since skin, respiratory systems, blood, and central nervous systems were considerd to be target organs. (GHS-J)
- Solvent naphtha (petroleum), light arom. : 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)
- Xylene : For mixed xylenes Where ethylbenzene is >=10%, classification under CLP as STOT-RE Cat 2 H373 is proposed [see Specific Investigations: other studies (ototoxicity)].

  The NOAEC of mixed xylenes for male rats exposed 6h/day for 5 days in each of 13 weeks was 3515 mg/m3.

  A NOAEC of 3515 mg/m3 was reported by Carpenter et al. (1975) for generalised systemic effects in male rats and male dogs. Other studies have shown that some xylene isomers adversely affect hearing in the rat, with a sub- chronic NOAEC of 1950 mg/m3 reported for p-xylene; the NOAEC for ototoxicity of m-xylene and o-xylene was greater than 7810 mg/m3 (Gagnaire et al., 2001). The ototoxicity of mixed xylenes appears to be dependent upon composition (Gagnaire et al., 2007), with a sub-chronic LOAEC of 1080 mg/m3 reported for one sample while another had a NOAEC of 2170 mg/m3. (ECHA)

○ **Aspiration hazard : Category 1**

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : <1 mm2/s (37.8°C) (ECHA) & hydrocarbons
- Xylene : 0.74 mm²/s (20°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

- Trimethyl benzene : 96h-LC50 = 3.359 mg/L (estimated) (ECOSAR Class : Neutral Organics) (ECHA)
- Solvent naphtha (petroleum), light arom. : 96h-LL50(Pimephales promelas) = 8.2 mg/L (EPA 66013-75-009, GLP) (ECHA)
- Xylene : 96h-LC50(Oncorhynchus mykiss) = 2.6 mg/L, static (OECD TG 203) (ECHA)

Invertebrates

- Trimethyl benzene : 48h-LC50(Daphnid) = 2.218 mg/L (estimated) (ECOSAR Class : Neutral Organics) (ECHA)
- Solvent naphtha (petroleum), light arom. : 48h-EL50(Daphnia magna) = 4.5 mg/L (OECD TG 202, GLP) (ECHA)
- Xylene : 48h-EC50(Daphnia magna)=8.5 mg/L (SIDS)

Aquatic algae

- Trimethyl benzene : 96h-EC50(Green Algae) = 3.084 mg/L (estimated) (ECOSAR Class : Neutral Organics) (ECHA)
- Solvent naphtha (petroleum), light arom. : 72h-ErL50(Pseudokirchneriella subcapitata) = 3.1 mg/L (OECD TG 201, GLP) (ECHA)
- Xylene : 72h-ErC50(Pseudokirchneriella subcapitata)=4.7 mg/L, static (OECD TG 201) (ECHA)

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

Fish

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : Not available
- Xylene : NOEC(Oncorhynchus mykiss)>=1.3 mg/L(mixed xylenes) (SIDS)

Invertebrates

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : 21d-NOELR(Daphnia magna) = 2.6 mg/L (OECD TG 211, GLP) (ECHA)
- Xylene : 21d-NOEC(Daphnia magna)=1.57 mg/L, static(OECD TG 211, GLP) (ECHA)

Aquatic algae

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : 72h-NOErLR(Pseudokirchneriella subcapitata) = 0.5 mg/L (OECD TG 201, GLP) (ECHA)
- Xylene : Not available

2) Persistence and degradability

○ **Persistence**

- Trimethyl benzene : log Kow = 3.42 (experimental) (EPISUITE)
- Solvent naphtha (petroleum), light arom. : log Kow = 3.30 (experimental) (EPISUITE)
- Xylene : log Kow=3.16 (20 °C) (ECHA)

○ **Degradability**

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : Not available
- Xylene : The estimated half life of the xylene isomers and ethylbenzene is about 1-2 days based on a recommended reaction rate with hydroxyl radicals and the concentration of hydroxyl radicals recommended in

the ECHA guidance. (ECHA)

3) Bioaccumulative potential

○ **Bioaccumulation**

- Trimethyl benzene : BCF = 83.85 (estimated) (EPISUITE)
- Solvent naphtha (petroleum), light arom. : BCF = 69.88 (estimated) (EPISUITE)
- Xylene : The highest calculated BCF is 25.9. (ECHA)

○ **Biodegradation**

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : 90.35 % degradation after 28d; inherently biodegradable (ISO/DIS 14593) (ECHA)
- Xylene : 98 % degradation (28 d) (OECD TG 301F, GLP) (ECHA)

4) Mobility in soil

- Trimethyl benzene : Koc = 928.6 (estimated) (EPISUITE)
- Solvent naphtha (petroleum), light arom. : Koc = 730.6 (EPISUITE)
- Xylene : Koc=246-540 (HSDB)

5) Hazard to the ozone layer

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

6) Other adverse effects

- Trimethyl benzene : Not available
- Solvent naphtha (petroleum), light arom. : Not available
- Xylene : 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

- III

5) Marine pollutant

- 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)

- Trimethyl benzene : European EINECS phase-in substance
- Solvent naphtha (petroleum), light arom. : European EINECS phase-in substance
- Xylene : European EINECS phase-in substance

EU CLP (CLASSIFICATION) - PRODUCT : Not applicable

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

Substances restricted under REACH

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Substances restricted under REACH
- Xylene : Not applicable

Substances subject to authorization under REACH

REACH SVHC List

Korea

○ **Occupational Safety and Health Act**

- Trimethyl benzene : Substance subject to occupational exposure limits, Substance subject to submission of process safety reports
- Solvent naphtha (petroleum), light arom. : Substance subject to occupational exposure limits, Harmful agents subject to work environment monitoring, Harmful agents subject to workers requiring health examination, Substance subject to submission of process safety reports
- Xylene : Substance subject to occupational exposure limits, Hazardous substance subject to control, Harmful agents subject to work environment monitoring, Harmful agents subject to workers requiring health examination, Substance subject to submission of process safety reports

○ **K-REACH**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Phase-in Substances subject to Registration, Substance subject to intensive control (2019)

○ **Chemical Control Act in Korea**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Toxic substance, List of substance subjected to the PRTR

○ **Safety Control of Dangerous Substances Act**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Dangerous substance

U.S.A

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

- Trimethyl benzene : Not applicable

- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

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

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : US management information(CERCLA regulation)

○ **CERCLA Section 302 regulation**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

○ **CERCLA Section 304 regulation**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

○ **CERCLA Section 313 regulation**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : US management information(CERCLA Section 313 regulation)

Interntional Convention on Environment

○ **Rotterdam Convention list**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

○ **Stockholm Convention list**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

○ **Montreal Protocol list**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

National Inventory

○ **Korea**

- Trimethyl benzene : Not applicable
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Not applicable

○ **U.S.A**

- Trimethyl benzene : US TSCA phase-in substance
- Solvent naphtha (petroleum), light arom. : US TSCA phase-in substance
- Xylene : US TSCA phase-in substance

○ **China**

- Trimethyl benzene : China phase-in substance
- Solvent naphtha (petroleum), light arom. : China phase-in substance
- Xylene : China phase-in substance

○ **Japan**

- Trimethyl benzene : Japan ENCS phase-in substance
- Solvent naphtha (petroleum), light arom. : Not applicable
- Xylene : Japan ENCS phase-in substance

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**

- 11

○ **Date of last revision**

- 2023-06-09

○ **Last Revision History**

- N/A

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 t he appropriateness of the SDS material in the user's end product, if applicable.