SDS(Safety Data Sheet)

Product	Kixx HD CNG 10W-40	
List No.	Issuing date	Last revised date
LB2732	2012-11-30	2020-08-25

1. IDENTIFICATION

1) Product name

Kixx HD CNG 10W-40

2) Recommended use of the chemical and restriction on use

- Recommended use (Lubricants and additives)
  Internal Combustion Engine Oil
- 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 +82-1899-5145

2. HAZARDS IDENTIFICATION

1) Classification of the product

LONG-TERM HAZARDS TO THE AQUATIC ENVIRONMENT : Category 3

2) Label elements

○ **Hazard pictograms**

- Not applicable

○ **Signal word**

- Not applicable

○ **Hazard statements**

- H412 Harmful to aquatic life with long lasting effects.

○ **Precautionary statements**

1) Prevention

- P273 Avoid release to the environment.

2) Response

- Not applicable

3) Storage

- Not applicable

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
Kixx HD CNG 10W-40	0	1	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Trade names and Synonyms	CAS No.	EC No.	Contain Ratio(%)
Distillates (petroleum), hydrotreated heavy paraffinic	Emulsifiable oil	64742-54-7	265-157-1	85 ~ 95
Business Secret1				5 ~ 15
1-Propene polymer with ethene		9010-79-1		0 ~ 2
Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt	Methylbenzenesulfonic acid, mono(C20-28)-branched alkyl derivatives, calcium salt	722503-70-0		0 ~ 1
Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts ; Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts ; PHOSPHORODITHIOIC ACID, O,O-DI(C1-14)-ALKYL ESTERS ZINC SALT ; DI-C1-14 ALKYL DITHIOPHOSPHORIC ACID, ZINC SALT ; PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS,ZINC SALTS ; Dialkyl(C1-C14)dithiophosphoric acid, zinc salt ; Phosphorodithioic acid, O,O-di-C1-14-alkyl ester, zinc salt ; Zinc, O,O-di(C1-14)-alkylphosphorodithioate ;	68649-42-3	272-028-3	0 ~ 1
Phenol, (tetrapropenyl) derivs.	Dodecylphenol	74499-35-7		0 ~ 0.2
Phenol, (tetrapropenyl) derivs., calcium salts	Phenol, (tetrapropenyl) derivatives, calcium salts	132752-19-3		0 ~ 0.2

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.

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.

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)

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.
- 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.
- 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.
- Please note that materials and conditions to be avoided.
- Handling refer to engineering control/personal protection section.

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 heavy paraffinic	Not available	TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)	Not available	Not available
BUSINESS SECRET1	Not available	Not available	Not available	Not available
1-Propene polymer with ethene	Not available	Not available	Not available	Not available
Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt	Not available	Not available	Not available	Not available
Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts	Not available	Not available	Not available	Not available
Phenol, (tetrapropenyl) derivs.	Not available	Not available	Not available	Not available
Phenol, (tetrapropenyl) derivs., calcium salts	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	Brown
Smell	a specific smell of Hydrocarbon
Smell Threshold	No Data
pH (Numerical value)	No Data
Melting/Freezing Point	No Data
Boilling Point (Numerical value)	No Data
Flash Point (Numerical value)	230 ℃
Evaporating Rate	No Data
Flammability(Solid, Gas)	No Data

Explosibility Range	No Data
Steam Pressure	No Data
Solubility (Numerical value)	No Data
Vapor Density	No Data
Specific Gravity	0.86
Distribution Coefficient	No Data
SelfIgnition Temperature	No Data
Pyrolysis Temperature	No Data
Viscosity (Numerical value)	14.9 mm2/s (at 100℃)
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**

- No ingestion effect through mouth.

2) Health hazard information

○ **Acute toxicity**

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

- Distillates (petroleum), hydrotreated heavy paraffinic : rat(male/female), LD50 > 5,000 mg/kg bw, no deaths (read-across: 64742-56-9) (OECD TG 401, GLP)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : rat; LD50 = 3100 mg/kg bw (read across: zinc

bis(O,O-diisooctyl) bis(dithiophosphate) (ECHA)
- Phenol, (tetrapropenyl) derivs. : LD50>2000 mg/kg (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

*** Dermal - Not classified (ATEmix > 2000 mg/kg)**
- Distillates (petroleum), hydrotreated heavy paraffinic : rabbit(male/female), LD50 > 5,000 mg/kg bw, no deaths (read-across: 64742-56-9) (OECD TG 402, GLP)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : rabbit(male/female); LD50 > 3160 mg/kg bw, no deaths (ECHA)
- Phenol, (tetrapropenyl) derivs. : LD50>15000 mg/kg (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

*** Inhalation(Gas) - Not applicable**
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

*** Inhalation(Vapour) - Not classified (ATEmix > 20 mg/L)**
- Distillates (petroleum), hydrotreated heavy paraffinic : rat(male/female), LC50 > 5.53 mg/L air /4h No deaths (read-across: MRD-87-102) (OECD TG 403)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : rat; LC50 > 5 mg/L air, no deaths (no data for exposure time)(ECHA)
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

*** Inhalation(Dust, mist) - Not classified (ATEmix > 5 mg/L)**
- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ Skin corrosion/Irritation : Not classified

- Distillates (petroleum), hydrotreated heavy paraffinic	:	Solvent dewaxed light paraffinic oil is not considered to be irritating to the skin of rabbits. (read across : 64742-56-9) (GLP)(ECHA)
- 1-Propene polymer with ethene	:	Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt	:	Not available

- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : rabbit; irritating (PDII = 4) (read across: Cetrimonium chloride (CAS No: 112-02-7))(ECHA)
- Phenol, (tetrapropenyl) derivs. : Animal data indicate that this substance causes irritation to the skin. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Solvent dewaxed light paraffinic oil is not considered to be an ocular irritant. (read-aross: 64742-56-9) (OECD TG 405, GLP)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : rabbit; irritating (read across: Stearyltrimethylammonium chloride) (OECD TG 405)(ECHA)
- Phenol, (tetrapropenyl) derivs. : Animal data indicate that this substance causes irritation to the eye. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Respiratory sensitization : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Skin sensitization : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : Under the conditions of the test, Solvent dewaxed light paraffinic oil is considered non-sensitizing. (read-aross: 64742-56-9) (OECD TG 406, GLP)(ECHA)

- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Human(patch test); not sensitising(positive reaction index=0) (read across: Cetrimonium chloride (CAS No: 112-02-7))(ECHA)
- Phenol, (tetrapropenyl) derivs. : It is not a skin sensitizer. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Carcinogenicity : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : EU CLP 1272/2008 : Carc. 1B (Note L : The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346)
- 1-Propene polymer with ethene : IARC, OSHA, NTP, ACGIH, EU CLP 1272/2008 : not listed
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : IARC, OSHA, NTP, IRIS, ACGIH, EU CLP 1272/2008 : not listed
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : IARC, OSHA, NTP, ACGIH, EU CLP 1272/2008 : not listed
- Phenol, (tetrapropenyl) derivs. : IARC, OSHA, NTP, ACGIH, EU CLP 1272/2008 : not listed
- Phenol, (tetrapropenyl) derivs., calcium salts : IARC, OSHA, NTP, IRIS, ACGIH, EU CLP 1272/2008 : not listed

○ **Germ cell mutagenicity : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : In vitro(CHO cell) Chromosome Aberration Test: negative (read-aross : 64742-53-6) (OECD TG 473, GLP)
  In vivo (mouse micronucleus assay) : negative (read-across : SDPO = solvent-extracted, dewaxed paraffin oil) (OECD TG 474)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : In vitro - Bacterial reverse mutation test ; Negative (OECD TG 471) (read across; Cetrimonium chloride (CAS No: 112-02-7), 2',4',5',7'-tetrabromo-4,5,6,7-tetrachloro-3',6'-dihydroxy-3H-spiro[2-benzofuran-1,9'-xanthen]-3-one) (ECHA)
  In vivo: Not available

- Phenol, (tetrapropenyl) derivs. : In vitro - Negative(gene mutation in bacterial and malmmalian cells), In vivo-Negative(bone marrow cytogenetics) Overall, TPP is not a genotoxicant. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Reproductive toxicity : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : Reproductive performance was not adversely affected at any dose level evaluated. There were no neonatal toxicity observed at any dose level. There were no differences in terms of systemic toxicity between either of the dose formulations. (read-aross : Chevron 100 Neutral) (OECD TG 421, GLP)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : In a developmental toxicity study, Sprague-Dawley female rats were treated with Quat-Silsesquioxane in the concentration of 0, 100, 300, or 1000 mg/kg/day orally by gavage in corn oil.No maternal mortality and clinical signs or behavioral changes were observed in treated female rats as compared to control. NOAEL(P)=300 mg/kg bw, NOAEL(F1)=1000 mg/kg bw (read across : Quaternary Silsesquioxane)(ECHA)
- Phenol, (tetrapropenyl) derivs. : In rats, tetrapropenyl phenol causes a reduction in the fertility of both sexes and a reduction in mean live litter size, in the presence of general toxicity, at a dose of ≥75 mg/kg/day. Effects on male and female reproductive organs were noted and some reduction in the growth rate of pups was observed during weaning at ≥25 mg/kg/day. This substance causes adverse developmental effects in rats (skeletal variations and malformations and external variations) at 300 mg/kg/day, the highest dose tested, but only in the presence of maternal toxicity. Overall, the NOAEL for toxicity to reproduction is 5 mg/kg/day. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Hydronephrosis of the right kidney was observed in one rat but was not considered treatment-related by the study authors. No other abnormalities were observed in any male or female rats. (read-across: 64742-56-9) (OECD TG 401, GLP)(ECHA)

  Dermal administration of API 78-9 at 5000 mg/kg did not result in any dermal irritation or signs of clinical toxicity. Gross necroscopy did not reveal any signs of systemic toxicity at the 5000 mg/kg dose level. (read-across: 64742-56-9) (OECD TG 402, GLP)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available

- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Significant effects not observed. (ECHA)
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

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

- Distillates (petroleum), hydrotreated heavy paraffinic : The systemic toxicity NOAEL for this 28-day dermal toxicity study in the rabbit is 1,000 mg/kg, based on the lack of adverse systemic effects observed at this dose level. (read-aross : 64742-53-6) (OECD TG 410, GLP)(ECHA)
  No systemic effects were observed. The NOAEL for lung changes associated with oil deposition in the lungs was 220 mg/m3. As no systemic toxicity was observed, the overall NOAEL for systemic effects was > 980 mg/m3. (read-aross : 64742-70-7) (OECD TG 412)(ECHA)
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Sprague-Dawley female rats were treated with Quat-Silsesquioxane in the concentration of 0, 100, 300, or 1000 mg/kg/day orally by gavage in corn oil.No maternal mortality and clinical signs or behavioral changes were observed in treated female rats as compared to control. NOAEL(P)=300 mg/kg bw, NOAEL(F1)=1000 mg/kg bw (read across : Quaternary Silsesquioxane)(ECHA)
- Phenol, (tetrapropenyl) derivs. : The NOAEL for repeated-dose toxicity in rodents is 5 mg/kg/day, as adrenal cortical hypertrophy was observed at doses of 20 mg/kg/day and above. It is noteworthy that similar changes were not observed in dogs administered up to 4000 ppm in the diet for 13 weeks. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Aspiration hazard : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : Viscosity: 73.9 mm2/s (40°C)(ECHA) & hydrocarbons
- 1-Propene polymer with ethene : Not available
- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Viscosity: > 9 - < 15 mm2/s (100°C; OECD TG 114)(ECHA) & not hydrocarbons
- Phenol, (tetrapropenyl) : Not available

derivs.

- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

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

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : 96h-LL50(Pimephales promelas) > 100 mg/L (OECD TG 203, GLP)(ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Water solubility : not soluble (0.000000000005072 mg/L at 25° C)(ECHA)
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

Invertebrates

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : 48h-EL50(Daphnia magna) > 10,000 mg/L(read across : 64742-53-6 or 64741-97-5) (OECD TG 202)(ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Water solubility : not soluble (0.000000000005072 mg/L at 25° C)(ECHA)
- Phenol, (tetrapropenyl) derivs. : 48hr-EC50(Daphnia) = 0.017 mg/L (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

Aquatic algae

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Water solubility : not soluble (0.000000000005072 mg/L at 25° C)(ECHA)
- Phenol, (tetrapropenyl) derivs. : 72hr-ErC50 = 0.091 ㎎/ℓ (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

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

Fish

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

Invertebrates

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : 21d-NOEL(Daphnia magna)=10 mg/L(OECD TG 211, GLP)(ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : 21d-NOEC(Daphnia)=0.002 mg/l (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

Aquatic algae

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : 72h-NOErL(Pseudokirchnerella subcapitata) >= 100 mg/L (OECD TG 201) (ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

2) Persistence and degradability

○ **Persistence**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : This substance is UVCB, so not applicable.(ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : log Kow=14.876 (estimated)(EPISUITE); not valid (over -4<log Kow < 8)(ECHA)
- Phenol, (tetrapropenyl) derivs. : log Kow=7.14 (measured) (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Degradability**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : It does not undergo hydrolysis. Atmospheric half-life : 2.294 hrs(calculated) (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

3) Bioaccumulative potential

○ **Bioaccumulation**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : This substance is UVCB, so not applicable.(ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : BCF=3.162(ECHA)
- Phenol, (tetrapropenyl) derivs. : BCF=823 (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

○ **Biodegradation**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available

- Distillates (petroleum), hydrotreated heavy paraffinic : 31% degradation after 28 days (OECD TG 301F) (read across: Solvent Neutral 600 Base Oil (MRD-94-981)) (OECD TG 301F, GLP)(ECHA)
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : 0% degradation after 28 days (Not biodegradable) (read across : Didecyl dimethyl ammonium chloride) (OECD TG 301C)(ECHA)
- Phenol, (tetrapropenyl) derivs. : Tetrapropenyl phenol does not readily biodegrade, and is not inherently biodegradable. (SIDS)
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

4) Mobility in soil

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Koc=3268000000
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : Not available

5) Hazard to the ozone layer

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

6) Other adverse effects

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not available
- 1-Propene polymer with ethene : Not available
- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not available
- Phenol, (tetrapropenyl) derivs. : Not available
- Phenol, (tetrapropenyl) derivs., calcium salts : 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.

- Not applicable

2) Proper shipping name

- Not applicable

3) Transport hazard class(es)

- Not applicable

4) Packing group

- Not applicable

5) Marine pollutant

- 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)

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : European EINECS phase-in substance
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : European EINECS phase-in substance
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

EU CLP (CLASSIFICATION) - PRODUCT : Not applicable

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

Substances restricted under REACH

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Substances restricted under REACH
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

Substances subject to authorization under REACH

REACH SVHC List

Korea

○ **Occupational Safety and Health Act**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Hazardous substance subject to control
- Phenol, (tetrapropenyl) derivs. : Not applicable

- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **K-REACH**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Phase-in Substances
- 1-Propene polymer with ethene : Phase-in Substances
- Distillates (petroleum), hydrotreated heavy paraffinic : Phase-in Substances
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Phase-in Substances
- Phenol, (tetrapropenyl) derivs. : Phase-in Substances
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **Chemical Control Act in Korea**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : List of substance subjected to the PRTR
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **Safety Control of Dangerous Substances Act**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Dangerous substance
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

U.S.A

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

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

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

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **CERCLA Section 302 regulation**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable

- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **CERCLA Section 304 regulation**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **CERCLA Section 313 regulation**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

Interntional Convention on Environment

○ **Rotterdam Convention list**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **Stockholm Convention list**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **Montreal Protocol list**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable

- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

National Inventory

○ **Korea**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Phase-in Substances
- 1-Propene polymer with ethene : Phase-in Substances
- Distillates (petroleum), hydrotreated heavy paraffinic : Phase-in Substances
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Phase-in Substances
- Phenol, (tetrapropenyl) derivs. : Phase-in Substances
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **U.S.A**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : US TSCA phase-in substance
- Distillates (petroleum), hydrotreated heavy paraffinic : US TSCA phase-in substance
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : US TSCA phase-in substance
- Phenol, (tetrapropenyl) derivs. : US TSCA phase-in substance
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : US TSCA phase-in substance

○ **China**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : China phase-in substance
- Distillates (petroleum), hydrotreated heavy paraffinic : China phase-in substance
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : China phase-in substance
- Phenol, (tetrapropenyl) derivs. : China phase-in substance
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : Not applicable

○ **Japan**

- Methylbenzenesulfonic acid, mono(C=20~28)-branched alkyl derivs., calcium salt : Not applicable
- 1-Propene polymer with ethene : Japan ENCS phase-in substance
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Phosphorodithioic acid O,O-dialkyl(C=1-14) esters zinc salts : Not applicable
- Phenol, (tetrapropenyl) derivs. : Not applicable
- Business Secret1 : Not applicable
- Phenol, (tetrapropenyl) derivs., calcium salts : 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

- 2012-11-30

3) Revision number and Last date revised

○ **Number of revised**

- 3

○ **Date of last revision**

- 2020-08-25

○ **Last Revision History**

- revision of chemical composition and Physical/Chemical Properties

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.