

Material Safety Data Sheet

Product	Kixx Spindle 10		
List No.	Issuing date	Last revised date	Department
LB3103	2012-11-30	2019-06-17	Finished Lubricants R&D Team

1. Identification of the substance/mixture and of the company/undertaking

1) Product identifier

- Kixx Spindle 10

2) Relevant identified uses of the substance or mixture and uses advised against

- Relevant identified uses : (Lubricants and additives)
- Uses advised against : Do not use for any other purpose.

3) Supplier information

Manufacturer information

- Company name : GS Caltex Corporation
[Manufacture]
- Address : GS Tower, 508, Nonhyeon-ro, Gangnam-gu, Seoul, Korea
- Emergency telephone number : 1899-5145
- Fax :

2. HAZARD IDENTIFICATION

1) Hazard classification

- Not applicable

2) Allocation label elements

Hazard pictograms

- Not applicable

Signal word

- Not applicable

Hazard statements

- Not applicable

Precautionary statements

1) Prevention

- Not applicable

2) Response

- Not applicable

3) Storage

- Not applicable

4) Disposal

- Not applicable

3) Other hazards

○ Product NFPA Level : Health , Flammability , Reactivity

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

※ Chemical NFPA Level.

- Distillates (petroleum), hydrotreated light paraffinic : Health=1, Flammable=1, Reaction=0
- Distillates (petroleum), hydrotreated heavy paraffinic : Health=1, Flammable=1, Reaction=0
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Health=1, Flammable=1, Reaction=0
- Phenol, isopropylated, phosphate (3:1) : Health=1, Flammable=1, Reaction=0
- Business Secret1 : Health=1, Flammable=1, Reaction=0

3. Composition/Information on ingredients

Chemical name	Trade names and Synonyms	CAS No.	EC No.	Contain Ratio(%)
Distillates (petroleum), hydrotreated light paraffinic		64742-55-8	265-158-7	65 ~ 75
Distillates (petroleum), hydrotreated heavy paraffinic		64742-54-7	265-157-1	25 ~ 35
4,4'-Methylenebis[2,6-di-t-butylphenol]		118-82-1	204-279-1	0 ~ 1
Phenol, isopropylated, phosphate (3:1)		68937-41-7	273-066-3	0 ~ 1
Business Secret1				2 ~ 5

4. FIRST AID MEASURES

1) Following eye contact

- In case of contact with material, immediately flush eyes with running water for at least 15 minutes.
- Get medical aid immediately.

2) Following skin contact

- In case of contact with material, immediately flush skin with running water for at least 15 minutes.
- Remove and isolate contaminated clothing and shoes.
- Launder contaminated clothing and shoes before re-use.
- Get medical aid immediately.

3) Following inhalation

- Move to fresh air.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Seek immediate medical assistance.

4) Following ingestion

- If unconscious but breathing, never give anything by mouth.
- Get medical aid immediately.

5) Advice to physician

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

- Do not apply drugs of the adrenaline ephedrine group.

5. FIRE FIGHTING MEASURES

1) Suitable (and unsuitable) extinguishing media

○ Suitable extinguishing media

- Small fire: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO₂ (Suitable extinguishing media).
- Large fire: Water spray/fog, regular foam (Suitable extinguishing media).

○ Unsuitable extinguishing media

- High-pressure water (Unsuitable extinguishing media).

2) Special hazards arising from the substance or mixture

- May ignited from heat, friction or contamination.
- Containers may explode when heated.
- Fire may produce irritating and/or toxic gases.
- May cause toxic effects if inhaled.
- Some liquids produce vapors that may cause dizziness or suffocation.
- May ignited from heat, friction or contamination.
- Containers may explode when heated.
- Some may burn but none ignite readily.
- Fire may produce irritating and/or toxic gases.
- May cause toxic effects if inhaled.
- Some liquids produce vapors that may cause dizziness or suffocation.

3) Special protective equipment for firefighters

- Substance may be transported hot.
- Runoff may cause pollution.
- Contact may cause burns to skin and eyes.
- Dike fire-control water for later disposal; do not scatter the material.
- 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.

6. ACCIDENTAL RELEASE MEASURES

1) Health considerations and protective equipment

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Stop leak if you can do it without risk.
- Please note that materials and conditions to be avoided.
- Ventilate the contaminated area.
- Do not touch or walk through spilled material.
- Prevent dust cloud.
- Do not enter areas which have more than 23.5% oxygen in the atmosphere, without respirator or air supplied mask.

2) Environmental precautions

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

3) For cleaning up

- Small Spill: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
- Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

7. HANDLING AND STORAGE

1) Precautions for safe handling

- Please note that materials and conditions to be avoided.
- Wash ... thoroughly after handling.
- Handling refer to engineering control/personal protection section.
- CAUTION: High temperature.
- CAUTION: This material does not contain oxygen and may cause asphyxia if released in a confined area.
- High concentration of this gas will create an oxygen-deficient atmosphere, creating the risk of asphyxiation. Check oxygen content before entering area.
- Use adequate machine for prevention when package handling.
- Avoid any skin and eye contact when insert undiluted solution. Wash ... thoroughly after handling.
- Caution: Dangerous fire hazard when exposed to heat, or flame, sparks.
- Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)

2) Conditions for safe storage (including any incompatibilities)

- Store in a dry place. Store in a closed container.
- Please note that materials and conditions to be avoided.
- Store containers: AVOID the place where can be damage and contamination.
- Store in a cool/low-temperature, well-ventilated {dry} place {away from heat and ignition sources}
- Choose a place that can be protected from strong oxidizers and acid.
- Drum Handling: Must work at safe place., Loading more than 3 stack is prohibited.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1) Chemical exposure limits, Biological exposure standard

Occupational exposure limits (Domestic)

- Phenol, isopropylated, phosphate (3:1) : TWA Not applicable, STEL Not applicable
- Business Secret1 : TWA Not applicable, STEL Not applicable

Occupational exposure limits (ACGIH)

- Phenol, isopropylated, phosphate (3:1) : TWA Not applicable, STEL Not applicable
- Business Secret2 : TWA Not applicable, STEL Not applicable

Biological limit values

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Business Secret3 : Not applicable

2) Appropriate engineering controls

- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

3) Personal protection equipment

○ Respiratory protection

- If high frequency of use or exposure, wear air respirator.
- Wear breathing protection, which needs a confirmation from the Korea Occupational Safety and Health Agency.

○ Eye protection

- Wear suitable protective goggles and face shields.
- Provide emergency showers and eyewash.

○ Hand protection

- Wear suitable protective gloves.
- Wear Non-moisture permeable chemical resistance protective gloves(latex, nitrile rubber, PVC) for prevent skin contact.

○ Body protection

- Wear suitable protective clothing.
- When contact is likely wear chemical resistant, oil and grease resistant, non-moisture permeable shoes and clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Item	Input Value
Appearance	Clear, light yellow liquid
Smell	a specific smell of hydrocarbon
Smell Threshold	No Data
pH	No Data
Melting/Freezing Point	No Data
Boiling Point	No Data
Flash Point	171 °C
Evaporating Rate	No Data
Flammability	No Data
Explosibility Range	No Data
Steam Pressure	<0.1
Solubility	No Data
Vapor Density	No Data
Specific Gravity	No Data
Distribution Coefficient	No Data
Self-ignition Temperature	>260 °C
Pyrolysis Temperature	No Data
Viscosity	10 mm ² /s (at 40°C)
Molecular Weight	No Data

10. STABILITY AND REACTIVITY

1) Stability and hazardous reactivity

- Stable under normal temperatures and pressures.
- Containers may explode when heated.
- Fire may produce irritating and/or toxic gases.
- May cause toxic effects if inhaled.
- Some liquids produce vapors that may cause dizziness or suffocation.

2) Conditions to avoid

- Ignition source(heat, spark, flame, etc.).

3) Incompatible materials

- Combustibles.
- Irritating and/or toxic gas.

4) Hazardous decomposition products

- Not available

11. TOXICOLOGICAL INFORMATION

1) Exposure route information

Inhalation

- Can be absorbed in body by inhalation.

Skin Contact

- Can be absorbed in by contact skin and the digestive organs or inhalation of aerosol.

Eye Contact

- Gases can be exposed through the respiratory tract, eyes and skin.
- Liquids can be exposed through the eyes, skin and oral.
- Vapors/mist can be exposed through the respiratory tract, eyes and skin.

Ingestion

- Can be absorbed in body by inhalation and contact the digestive organs.

2) Health hazard information

Acute toxicity

* Oral - PRODUCT : Not Applicable (ATEMix > 2,000 mg/kg)

- Distillates (petroleum), hydrotreated light paraffinic : LD50 > 5000 mg/kg Rat
- 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)
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : LD50>2000 mg/kg bw(rat; male/female; oral; no deaths; OECD Guideline 401; 1988)
- Phenol, isopropylated, phosphate (3:1) : LD50 > 5000 mg/kg Rat
- Business Secret1 : LD50 > 39800 mg/kg Rat

* Dermal - PRODUCT : Not Applicable (ATEMix > 2,000 mg/kg)

- Distillates (petroleum), hydrotreated light paraffinic : LD50 > 2000 mg/kg Rabbit
- 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)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : LD50 > 2000 mg/kg bw(rat; male/female; dermal; no deaths; OECD Guideline 402; 1988)
- Phenol, isopropylated, phosphate (3:1) : LD50 > 10000 mg/kg Rabbit
- Business Secret1 : No data

*** Inhalation(Gas) - PRODUCT : Not applicable (ATEMix = 0)**

- Distillates (petroleum), hydrotreated light paraffinic : No data
- Distillates (petroleum), hydrotreated heavy paraffinic : No data
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data
- Phenol, isopropylated, phosphate (3:1) : No data
- Business Secret1 : No data

*** Inhalation(Vapour) - PRODUCT : Not applicable (ATEMix = 0)**

- Distillates (petroleum), hydrotreated light paraffinic : No data
- 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)
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data
- Phenol, isopropylated, phosphate (3:1) : No data
- Business Secret1 : No data

*** Inhalation(Dust, mist) - PRODUCT : Not applicable (ATEMix > 5 mg/L)**

- Distillates (petroleum), hydrotreated light paraffinic : LC50 5.53 mg/L Rat
- Distillates (petroleum), hydrotreated heavy paraffinic : LC50 5.53 mg/L Rat
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data
- Phenol, isopropylated, phosphate (3:1) : LC50 > 50 mg/L Rat
- Business Secret1 : No data

○ Skin corrosion/Irritation

- Distillates (petroleum), hydrotreated light paraffinic : not irritating Rabbit
- 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)
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : not irritating(rabbit; OECD Guideline 404; 1988)
- Phenol, isopropylated, phosphate (3:1) : Not irritating Rabbit
- Business Secret1 : Slightly irritating Rabbit

○ Serious eye damage/irritation

- Distillates (petroleum), hydrotreated light paraffinic : Not irritating Rabbit
- Distillates (petroleum), hydrotreated heavy paraffinic : Solvent dewaxed light paraffinic oil is not considered to be an ocular irritant. (read-across: 64742-56-9) (OECD TG 405, GLP)
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : not irritating(rabbit; OECD Guideline 405; 1976)
- Phenol, isopropylated, phosphate (3:1) : Not irritating Rabbit
- Business Secret1 : No data

○ Respiratory sensitization

- Distillates (petroleum), hydrotreated light paraffinic : No data
- Distillates (petroleum), hydrotreated heavy paraffinic : No data
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data

- Phenol, isopropylated, phosphate (3:1) : No data

- Business Secret1 : No data

○ Skin sensitization

- Distillates (petroleum), hydrotreated light paraffinic : Not sensitising Guinea pig

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

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : not sensitising(guinea pig; OECD Guideline 406; 1988)

- Phenol, isopropylated, phosphate (3:1) : Not sensitising Guinea pig

- Business Secret1 : No data

○ Carcinogenicity

- Distillates (petroleum), hydrotreated light paraffinic : Carcinogenicity Category 1B EU CLP Notice (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)

- Distillates (petroleum), hydrotreated heavy paraffinic : Carcinogenicity Category 1B EU CLP Notice (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)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : ECHA: No test substance related increase in tumour incidence was observed. (rat; male/female; oral; 104 weeks; 15, 60, 100, 500, 3000 ppm; OECD Guideline 453; 1969)

- Phenol, isopropylated, phosphate (3:1) : No data

- Business Secret1 : No data

○ Germ cell mutagenicity

- Distillates (petroleum), hydrotreated light paraffinic : Negative Mouse

- Distillates (petroleum), hydrotreated heavy paraffinic : In vitro(CHO cell): negative (read-across : 64742-53-6) (OECD TG 473, GLP)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : negative(OECD Guideline 471 (Bacterial Reverse Mutation Assay); 1987)

- Phenol, isopropylated, phosphate (3:1) : Negative Chinese hamster

- Business Secret1 : Negative

○ Reproductive toxicity

- Distillates (petroleum), hydrotreated light paraffinic : Reproductive performance was not adversely affected at any dose level evaluated. Rat

- 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 bet

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : The substance in the diet up to levels of 3000 ppm did not affect fertilityof rats, viability of offspring, or caused abnormalities in the offspring under the conditions of this 3-generation study. NO

- Phenol, isopropylated, phosphate (3:1) : Male and female reproductive performance was also adversely affected at dose levels of 100 and 400 mg/kg/day. Rat

- Business Secret1 : No data

○ Specific target organ toxicity (single exposure)

- Distillates (petroleum), hydrotreated light paraffinic : No data

- 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:

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data

- Phenol, isopropylated, phosphate (3:1) : No data

- Business Secret1 : No data

○ Specific target organ toxicity (repeated exposure)

- Distillates (petroleum), hydrotreated light paraffinic : No systemic effects were observed. Rat

- 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-across : 64742-53-6) (OE

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Critical effects observed: not specified (rat; male/female; oral; 90d)

- Phenol, isopropylated, phosphate (3:1) : Male and female reproductive performance was also adversely affected at dose levels of 100 and 400 mg/kg/day. Rat

- Business Secret1 : Reduced body weight gain. Increased liver and kidney weight. Reduced haematocrit. Fatty change of hepatocytes, renal tubular degeneration. However no critical effects. Rat

○ Aspiration hazard

- Distillates (petroleum), hydrotreated light paraffinic : Since it is a hydrocarbon and its kinematic viscosity is 1.99-847 mm²/s at 40degC, the substance was classified into Category 1.

- Distillates (petroleum), hydrotreated heavy paraffinic : 73.9 mm²/s (40°C)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data

- Phenol, isopropylated, phosphate (3:1) : No data

- Business Secret1 : No data

12. ECOLOGICAL INFORMATION

1) Aquatic toxicity

○ Fish

- Distillates (petroleum), hydrotreated light paraffinic : LC50 > 5000 mg/L Fish (Oncorhynchus mykiss)

- Distillates (petroleum), hydrotreated heavy paraffinic : 96h-LL50 (Pimephales promelas) > 100 mg/L (OECD TG 203, GLP)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : LC50=820mg/l (Oncorhynchus mykiss; 96h)

- Phenol, isopropylated, phosphate (3:1) : LC50 1.15 mg/L Fish (Oncorhynchus mykiss)

- Business Secret1 : LC50 > 1000 mg/L Fish (Salmo gairdneri)

○ Crustacean

- Distillates (petroleum), hydrotreated light paraffinic : EC50 > 1000 mg/L Aquatic invertebrates (Daphnia magna)

- 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)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : EC50 > 0.1 mg/l (Daphnia magna; 48h; OECD Guideline 202; 2001)

- Phenol, isopropylated, phosphate (3:1) : EC50 > 1000 mg/L Aquatic invertebrates (Daphnia magna)

- Business Secret1 : No data

○ Aquatic algae

- Distillates (petroleum), hydrotreated light paraffinic : NOEC >= 100 mg/L Aquatic algae (Pseudokirchnerella subcapitata)

- Distillates (petroleum), hydrotreated heavy paraffinic : NOEC >= 100 mg/L Aquatic algae (Pseudokirchnerella subcapitata)

- 4,4'-Methylenebis[2,6-di-t-butylphenol] : EC50 > 1000 mg/L 96 hr Scenedesmus capricornutum

- Phenol, isopropylated, phosphate (3:1) : EC50 > 1000 mg/L Aquatic algae (Pseudokirchnerella subcapitata)

- Business Secret1 : No data

2) Persistence and degradation

○ Persistence

- Distillates (petroleum), hydrotreated light paraffinic : log Kow 6
- Distillates (petroleum), hydrotreated heavy paraffinic : This substance is UVCB, so not applicable.
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : log Pow > 6.5 (20 °C; OECD Guideline 117; 2005)
- Phenol, isopropylated, phosphate (3:1) : log Kow >= 4.92
- Business Secret1 : log Kow 5.89

○ Degradation

- Distillates (petroleum), hydrotreated light paraffinic : No data
- Distillates (petroleum), hydrotreated heavy paraffinic : No data
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data
- Phenol, isopropylated, phosphate (3:1) : ThOD 60 %
- Business Secret1 : ThOD 62 %

○ biodegradation

- Distillates (petroleum), hydrotreated light paraffinic : BOD 6 %
- 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)
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : >99%(0.04h; OECD 314B; 2007)
- Phenol, isopropylated, phosphate (3:1) : No data
- Business Secret1 : No data

3) Bioaccumulative potential

- Distillates (petroleum), hydrotreated light paraffinic : No data
- Distillates (petroleum), hydrotreated heavy paraffinic : This substance is UVCB, so not applicable.
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : BCF=660(OECD Guideline 305; 2010)
- Phenol, isopropylated, phosphate (3:1) : No data
- Business Secret1 : No data

4) Mobility in soil

- Distillates (petroleum), hydrotreated light paraffinic : No data
- Distillates (petroleum), hydrotreated heavy paraffinic : No data
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Koc=1704000
- Phenol, isopropylated, phosphate (3:1) : Koc 2704
- Business Secret1 : No data

5) Hazard to the ozone layer

- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable
- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Business Secret1 : Not applicable

6) Other adverse effects

- Distillates (petroleum), hydrotreated light paraffinic : No data
- Distillates (petroleum), hydrotreated heavy paraffinic : No data
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : No data
- Phenol, isopropylated, phosphate (3:1) : No data
- Business Secret1 : No data

13. DISPOSAL CONSIDERATIONS

1) Disposal methods

- Isolate water and oil: Burn in isolated oil, disposed of water in water pollution control plant.
- Disposed by evaporation or concentration. Incinerated or stabilized the residues.
- Disposed by aggregation and precipitation. Incinerate the residues.
- Purified by isolation, distillation, extraction, filtration and thermal decomposition.
- Disposed by incineration or stabilization.

2) Precautions (including disposal of contaminated container of package)

- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

1) UN No.

- Not applicable

2) Proper shipping name

- Not applicable

3) Class or division

- Not applicable

4) Packing group

- Not applicable

5) Marine pollutant

- Not applicable

6) Special safety response for transportation or transportation measure

- Types of Emergency Measures in Case of Fire : Not applicable
- Types of Emergency Measures in Leakage : Not applicable
- This product is not regulated for carriage according to ADR/RID, ADN, IMDG, ICAO/IATA.

15. REGULATORY INFORMATION

1) Occupational Safety and Health Act in Korea - PRODUCT :

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

2) Toxic Chemical Control Act in Korea - PRODUCT :

- Phenol, isopropylated, phosphate (3:1) : Existing Commercial Chemical Substances
- Distillates (petroleum), hydrotreated light paraffinic : Existing Commercial Chemical Substances
- Distillates (petroleum), hydrotreated heavy paraffinic : Existing Commercial Chemical Substances
- Business Secret : Existing Commercial Chemical Substances
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Existing Commercial Chemical Substances

3) Safety Control of Dangerous Substances Act in Korea - PRODUCT : 제4류 제3석유류

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

4) Wastes Control Act in Korea - PRODUCT : 지정 폐기물

- 폐유(액체상태)

5) Other regulations in KOREA and Abroad regulations

○ U.S.A. management information(OSHA regulation)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ U.S.A. management information(CERCLA regulation)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ U.S.A. management information(Rotterdam Convention on Substances)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ U.S.A. management information(Stockholm Convention on Substances)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ U.S.A. management information(Mont- real Protocol on Substances)

- Phenol, isopropylated, phosphate (3:1) : Not applicable

- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ EU Classification (CLASSIFICATION)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Carc. 1B
- Distillates (petroleum), hydrotreated heavy paraffinic : Carc. 1B
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ EU Classification (Risk Phrases)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : H350
- Distillates (petroleum), hydrotreated heavy paraffinic : H350
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

○ EU Classification (Safety Phrases)

- Phenol, isopropylated, phosphate (3:1) : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : S:53-45
- Distillates (petroleum), hydrotreated heavy paraffinic : S:53-45
- Business Secret : Not applicable
- 4,4'-Methylenebis[2,6-di-t-butylphenol] : Not applicable

16. OTHER INFORMATION

1) Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

2) Print date

- 2012-11-30

3) Revision date

- Number of revised
 - 5
- Date of last revision
 - 2019-06-17
- Last Revision History
 - No revision information

4) Other

- This information is based on current available databases to protect the health, environment and safety of workers.