SDS(Safety Data Sheet)

Product	Kixx ATF Multi		
MSDS Number	List No.	Issuing date	Last revised date
-	LB2699	2012-11-30	2026-06-08

1. IDENTIFICATION

1) Product name

Kixx ATF Multi

2) Recommended use of the chemical and restriction on use

- Recommended use Lubricants
- 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 1899-5145

2. HAZARDS IDENTIFICATION

1) Classification of the product

- Not applicable

2) 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**

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

Product name	Health	Flammable	Reaction
Kixx ATF Multi	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	87 ~ 92
Trade secret				3 ~ 7
Distillates (petroleum), hydrotreated light paraffinic	Mineral oil, petroleum distillates, hydrotreated (severe) light paraffinic	64742-55-8	265-158-7	1 ~ 3
3-(Decyloxy)tetrahydrothiophene 1,1-dioxide	Thiophene,3-(decyloxy)tetrahydro-, 1,1-dioxide	18760-44-6	242-556-9	0.1 ~ 2
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Mineral oil, petroleum distillates, solvent dewaxed heavy paraffinic (severe solvent-refining and/or hydrotreatment) ; Solvent dewaxed heavy paraffinic distillate;Adriatic spindle oil	64742-65-0	265-169-7	0.1 ~ 2
Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based	Factory Supply Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0	276-737-9	0.1 ~ 2
ar-Nonyl-N-(nonylphenyl)benzenamine	DINONYL DIPHENYLAMINE	36878-20-3	253-249-4	0.1 ~ 1
Distillates (petroleum), solvent-refined heavy paraffinic	DISTILLATES(PETROLEUM),SOLVENT-REFINED HEAVY PARAFFINIC ; Distillates, petroleum, solvent refined heavy paraffinic;DISTILLATES (PETROLEUM), SOLVENT REFINED, HEAVY PARAFFINIC	64741-88-4	265-090-8	0.1 ~ 0.5
2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole	Amoco 158	89347-09-1	289-493-3	0.1 ~ 0.5
2,2'-Iminobisethanol, N-tallow alkyl derivs.	Ethanol, 2,2	61791-44-4	263-177-5	0 ~ 0.2
N,N-Dimethyl-1-octadecanamine	N-n-octadecyl dimethyl amine	124-28-7	204-694-8	0 ~ 0.3

※ Except for the above components, all components are not listed as they do not meet the criteria for hazardous risk classification in Article 104 (Classification of Hazardous Factors) of Regulated Acts and Occupational Safety and Health Act.

※ This product has less than 3% DMSO extract as measured by the IP346 method.

4. FIRST AID MEASURES

1) Eye contact	- In case of contact with material, immediately flush eyes with running water for at least 15 minutes. - If eye irritation persists: Get medical advice/attention.
2) 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. - If skin irritation occurs: Get medical advice/attention.
3) Inhalation	- Move victim to fresh air. - Give artificial respiration if victim is not breathing. - Administer oxygen if breathing is difficult. - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
4) Ingestion	- If unconscious but breathing, never give anything by mouth - If swallowed do not induce vomiting, seek medical advice immediat. - Get immediate medical advice/attention. - Rinse mouth.
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	- 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) - High-pressure water (Unsuitable extinguishing media)
2) Special hazards arising from the substance or mixture	- May be ignited by heat, sparks or flames. - Fire may produce irritating and/or toxic gases. - May cause toxic effects if inhaled.
3) Special protective equipment and precautions 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. - Move containers from fire area if you can do it without risk. - 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

- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Ventilate the contaminated area.
- Stop leak if you can do it without risk.
- Prevent dust cloud.
- Please note that materials and conditions to be avoided.

2) Environmental precautions

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

3) Methods and material for containment and cleaning up

- Small Spill: Flush area with flooding quantities of water.
- 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.
- Small Spill: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

7. HANDLING AND STORAGE

1) Precautions for safe handling

- Wash ... thoroughly after handling.
- Please note that materials and conditions to be avoided.
- Handling refer to engineering control/personal protection section.
- Cuation: High temperature

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 in a closed container.

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	TWA :Not available	TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)	Not available	Not available
Trade secret	Not available	Not available	Not available	Not available

Distillates (petroleum), hydrotreated light paraffinic	TWA :Not available	TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)	Not available	Not available
3-(Decyloxy)tetrahydrothiophene 1,1-dioxide	Not available	Not available	Not available	Not available
Distillates (petroleum), solvent-dewaxed heavy paraffinic	TWA :Not available	TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)	Not available	Not available
Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based	Not available	TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)	Not available	Not available
ar-Nonyl-N-(nonylphenyl)benzenamine	Not available	Not available	Not available	Not available
Distillates (petroleum), solvent-refined heavy paraffinic	Not available	TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)	Not available	Not available
2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole	Not available	Not available	Not available	Not available
2,2'-Iminobisethanol, N-tallow alkyl derivs.	Not available	Not available	Not available	Not available
N,N-Dimethyl-1-octadecanamine	Not available	Not available	Not available	Not available

2) Appropriate engineering controls

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

3) Personal protection equipment

○ **Respiratory protection**
- Wear a adequate respiratory protection equipment with certificate by considering physicochemical properties of exposured particulate material.
- In case exposured to particulate material, the respiratory protective equipments as follow are recommended. - facepiece filtering respirator or air-putifying respirator, high-efficiency particulate air(HEPA) filter media or resporator equipped with power
- In lack of oxigan(<19.6%), wear the supplied-air respiratior or self-contained

breathing apparatus.
- Consider the warning characteristics beforehand.

○ **Eye protection**
- Wear breathable safety goggles to protect from material causing eye irritation or other disorder.
- An eye wash unit and safety shower station should be available nearby work place.
- In case of direct exposure or potential exposure to the substance, wear safety glasses for chemicals approved in the country.

○ **Hand protection**
- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.
- In case of direct exposure or potential exposure to the substance, wear safety gloves for chemicals approved in the country.

○ **Body protection**
- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.
- In case of direct exposure or potential exposure to the substance, wear protective clothing for chemicals approved in the country.

9. PHYSICAL AND CHEMICAL PROPERTIES

Item	Input Value
Apperance	Liquid
Color	No Data
Smell	a specific smell of Hydrocarbon
Smell Threshold	No Data
pH (Numerical value)	No Data
Melting/Freezing Point	No Data
Boilling Point	No Data
Flash Point	210 ℃
Evaporating Rate	No Data
Flammability(Solid, Gas)	No Data
Explosibility Range	No Data
Steam Pressure	No Data
Solubility	No Data
Vapor Density	No Data
Specific Gravity	0.845
Distribution Coefficient	No Data
SelfIgnition Temperature	No Data
Pyrolysis Temperature	No Data

Viscosity	34.5 mm2/s (at 40℃)
Molecular Weight	No Data

10. STABILITY AND REACTIVITY

1) Chemical Stability and hazardous reactivity
- Stable under normal temperatures and pressures.
- Containers may explode when heated.
- Some may burn but none ignite readily.

2) Conditions to avoid
- Ignition source(heat, spark, flame)

3) Incompatible materials
- Combustibles
- Irritating and/or toxic gas

4) Hazardous decomposition products
- Not available

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)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : rat(male/female); LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401, GLP) (read across: 64742-56-9) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : rat(male/female); LD50 > 10000 mg/kg, no deaths (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : rat(male/female); LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401, GLP) (read across: 64742-56-9) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : rat(male/female); no deaths; LD50 > 5000 mg/kg bw; (read-across: CAS No. 64742-56-9) (OECD TG 401, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : rat(male/female); LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : rat(male/female); LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401, GLP) (read across: 64742-56-9) (ECHA)

- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : rat(male/female); LD50 > 10000 mg/kg, no deaths (OECD TG 401) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : rat; LD50 = 630 mg/kg bw (GLP) (HPVIS)
- N,N-Dimethyl-1-octadecanamine : rat(male/female); LD50 = 2116 ㎎/㎏ bw (OECD TG 401, GLP) (ECHA)

*** 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)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : rabbit(male/female); LD50 > 5000 ㎎/㎏ bw, no deaths (OECD TG 402, GLP) (read across: 64742-56-9) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : rabbit(male); LD50 = 4000-8000 mg/kg (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : rabbit(male/female); LD50 > 5000 ㎎/㎏ bw, no deaths (OECD TG 402, GLP) (read across: 64742-56-9) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : rabbit; no deaths; LD50 > 2000 mg/kg bw (read-across: CAS No. 64742-53-6) (OECD TG 402, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : rat(male/female); LD50 > 2000 ㎎/㎏ bw (OECD TG 402) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : rabbit(male/female); LD50 > 5000 ㎎/㎏ bw, no deaths (OECD TG 402, GLP) (read across: 64742-56-9) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : rabbit(male/female); LD50 > 20000 mg/kg, no deaths (OECD TG 402) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : Not available

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not available
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not available
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : Not available
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : rat(male/female); inhalation: vapour; LC50 > 2.75 mg/L, no deaths (OECD TG 403) (HPVIS)

- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : Not available

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

- Distillates (petroleum), hydrotreated heavy paraffinic : inhalation: aerosol; rat(male/female); 4h-LC50 > 5.53 mg/L. No deaths (read-across: MRD-87-102) (OECD TG 403)(ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : rat(male/female); inhalation: aerosol; LC50 > 5.53 mg/L air /4h, no deaths (OECD TG 403) (read across: MRD-87-102) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : rat(male/female); inhalation: aerosol; LC50 > 5.53 mg/L air /4h, no deaths (OECD TG 403) (read across: MRD-87-102) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : rat; inhalation: aerosol; no deaths; LC50 > 5.53 mg/L air 4hrs (read-across: CAS No. 64741-88-4) (OECD TG 403) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : rat(male/female); inhalation: aerosol; LC50 > 5.53 mg/L air /4h, no deaths (OECD TG 403) (read across: MRD-87-102) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : 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)
- Trade secret	:	Not available
- Distillates (petroleum), hydrotreated light paraffinic	:	rabbit; not irritating (GLP) (read across: 64742-56-9) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide	:	Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic	:	rabbit; not irritating (GLP) (read across: 64742-56-9) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based	:	rabbit; not irritating (read-across: CAS No. 64742-53-6) (OECD TG 404, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine	:	rabbit; slightly irritating (OECD TG 404, GLP) (read across: TK12340) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic	:	rabbit; not irritating (GLP) (read across: 64742-56-9) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole	:	Not available

- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : rabbit; irritating (OECD TG 404, GLP) (ECHA)

○ 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) (equivalent or similar to guideline OECD TG 405, GLP) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : rabbit; not irritating (OECD TG 405, GLP) (read across: 64742-56-9) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : rabbit; not irritating (OECD TG 405, GLP) (read across: 64742-56-9) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : rabbit; not irritaing (read-across: CAS No. 64742-56-9) (OECD TG 405, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : rabbit; not irritating (OECD TG 405, GLP) (read across: TK12340) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : rabbit; not irritating (OECD TG 405, GLP) (read across: 64742-56-9) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : rabbit; corrosive (OECD TG 405, GLP) (ECHA)

○ Respiratory sensitization : Not classified

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available

- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not available
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not available
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : Not available
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : 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 for guinea-pigs. (read-aross: 64742-56-9) (OECD TG 406, GLP) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : guinea pig; not sensitising (OECD TG 406, GLP) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : guinea pig; not sensitising (OECD TG 406, GLP) (read across: 64742-53-6) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : guinea pig; not sensitising (read-across: CAS No. 64742-53-6) (OECD TG 406, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : guinea pig; not sensitising (OECD TG 406, GLP) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : guinea pig; not sensitising (OECD TG 406, GLP) (read across: 64742-53-6) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N- : Not available

tallow alkyl derivs.

- N,N-Dimethyl-1-octadecanamine : 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)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light 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)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed
- Distillates (petroleum), solvent-dewaxed 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)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 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)
- ar-Nonyl-N-(nonylphenyl)benzenamine : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed
- Distillates (petroleum), solvent-refined 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)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed
- N,N-Dimethyl-1-octadecanamine : IARC, EU CLP 1272/2008, OSHA, ACGIH, US EPA IRIS, NTP : not listed

○ **Germ cell mutagenicity : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : In vitro bacterial reverse mutation assay: negative (equivalent or similar to guideline OECD TG 471) (ECHA)
  In vitro mammalian chromosome aberration test: negative (read-aross : 64742-53-6) (equivalent or similar to guideline OECD TG 473, GLP) (ECHA)
  In vivo micronucleus assay : negative (read-across : 64741-62-4, 64741-53-3) (equivalent or similar to guideline OECD TG 474) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : In vitro Bacterial Reverse Mutation Assay : positive (OECD TG 471) (read across: 64741-50-0) (ECHA), In Vitro Mammalian Chromosome Aberration Test : negative (OECD TG 473) (read across: L-06 Light Hydrotreated Feedstock) (ECHA)

In vivo Mammalian Erythrocyte Micronucleus Test : negative (OECD TG 474) (read across: solvent-extracted, dewaxed paraffin oil) (ECHA)

- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : In vitro mammalian chromosome aberration test : negative (OECD TG 473, GLP) (HPVIS)
  In vivo : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : In vitro Bacterial Reverse Mutation Assay : positive (OECD TG 471) (read across: 64741-50-0) (ECHA), In Vitro Mammalian Chromosome Aberration Test : negative (OECD TG 473) (read across: L-06 Light Hydrotreated Feedstock) (ECHA)
  In vivo Mammalian Erythrocyte Micronucleus Test : negative (OECD TG 474) (read across: solvent-extracted, dewaxed paraffin oil) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : in vitro mammalian chromosome aberration test: negative (read-across: CAS No. 64741-52-2) (OECD TG 473) (ECHA)
  in vitro bacterial reverse mutation assay: negative (read-across: CAS No. 64742-54-7 and 64742-52-5) (OECD TG 471) (ECHA)
  in vitro mammalian cell gene mutation assay: negative (read-across: CAS No. 64742-52-5) (OECD TG 476, GLP) (ECHA)
  in vivo mammalian erythrocyte micronucleus assay: negative (read-across: solvent-extracted, dewaxed paraffin oils, sufficiently refined, IP 346 < 3%) (OECD TG 474) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : In vitro Bacterial Reverse Mutation Assay : negative (OECD TG 471) (read across: TK12340) (ECHA), In Vitro Mammalian Cell Gene Mutation Test : negative (OECD TG 476) (read across: 4,4-dioctyldiphenylamine) (ECHA)
  In vivo rodent dominant lethal assay : negative (OECD TG 478) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : In vitro Bacterial Reverse Mutation Assay : positive (OECD TG 471) (read across: 64741-50-0) (ECHA), In Vitro Mammalian Chromosome Aberration Test : negative (OECD TG 473) (read across: L-06 Light Hydrotreated Feedstock) (ECHA)
  In vivo Mammalian Erythrocyte Micronucleus Test : negative (OECD TG 474) (read across: solvent-extracted, dewaxed paraffin oil) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : In vitro Bacterial reverse mutation assay : negative (OECD TG 471, GLP) (HPVIS), in vitro mammalian chromosome aberration test : negative (OECD TG 473) (HPVIS)
  In vivo : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : In vitro Bacterial Reverse Mutation Assay : negative (OECD TG 471) (ECHA)
  In vivo Mammalian Erythrocyte Micronucleus Test : negative (OECD TG 474, GLP) (ECHA)

○ **Reproductive toxicity : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : rat; screening for reproductive / developmental toxicity; 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)

- Trade secret	:	Not available
- Distillates (petroleum), hydrotreated light paraffinic	:	rat(male/female); 1000 mg/kg/day; Reproduction / Developmental Toxicity Screening Test; 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. (OECD TG 421, GLP) (read across: Chevron 100 Neutral) (ECHA) rat; Dermal administration of the base oil did not adversely affect maternal reproductive performance, nor did it affect offspring survival or development. (OECD TG 414) (read across: 100 SUS solvent refined base oil) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide	:	rat(male/female); 0, 50, 175 and 600 mg/kg/day; Based on the results of this study, a dosage level of 600 mg/kg/day (the highest dosage level tested) appeared to be the no-observed-adverse-effect level (NOAEL) for reproductive toxicity. Based on the lack of effects on live litter size, postnatal survival and F1 body weights at any dosage level, the NOAEL for F1 neonatal toxicity was considered to be at least 600 mg/kg/day. (OECD TG 421, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic	:	rat(male/female); 1000 mg/kg/day; Reproduction / Developmental Toxicity Screening Test; 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. (OECD TG 421, GLP) (read across: Chevron 100 Neutral) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based	:	rat; screening for reproductive/developmental toxicity; 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-across: CAS No. 64742-54-7) (OECD TG 421, GLP) (ECHA) rat; developmental toxicity; There was no evidence of teratogenicity. There were no treatment-related changes observed during the external, skeletal, or visceral evaluations (read-across: CAS No. 64741-88-4) (OECD TG 414) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine	:	rat; 50, 150 and 500 mg/kg bw; The substance is not teratogenic and not embryotoxic in rats. It causes maternal toxicity at a dose level of 500 mg/kg bw. (OECD TG 414, GLP) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic	:	rat(male/female); 1000 mg/kg/day; Reproduction / Developmental Toxicity Screening Test; 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. (OECD TG 421, GLP) (read across: Chevron 100 Neutral) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole	:	rat(male/female); 0, 10, 80 and 640 ppm; No significant differences were found between the control and test article treated animals in fertility, gestation, viability, or lactation indicies, or in mean numbers of offspring born and weaned/litter. (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs.	:	Not available

- N,N-Dimethyl-1-octadecanamine : rat(male/female); 0, 50, 150, 300 and 450 mg/kg b.w./day; Reproduction / Developmental Toxicity Screening Test; NOEL(P0, F1)=50 mg/kg bw/day (150 mg/kg bw/day were in the beginning lethal range for pregnant rats). It can be concluded that effects in pubs were a consequence of maternal toxicity and not directly related to the applied substance. (OECD TG 421, GLP) (read across) (ECHA)

○ **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)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : oral; rat(male/female); No clinical signs of toxicity observed in either male or female rats. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401, GLP) (read across: 64742-56-9) (ECHA)
  dermal; rabbit(male/female); No visible signs of clinical toxicity were observed in male and female rabbits dosed with API 78-9 at 5000 mg/kg. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 402, GLP) (read across: 64742-56-9) (ECHA)
  inhalation: aerosol; rat(male/female); The test material which was deposited on the animal fur during exposure diminished by observation Day 10. No mortality in either the control or exposed group was reported. There were no statistically significant differences in mean body weight between groups. LC50 > 5.53 mg/L air /4h, no deaths (OECD TG 403) (read across: MRD-87-102) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : oral; rat(male/female); There were no signs of toxicity observed in any of the animals. LD50 > 10000 mg/kg, no deaths (HPVIS)
  dermal; rabbit(male); No significant signs of toxicity were reported. LD50 = 4000-8000 mg/kg (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : oral; rat(male/female); No clinical signs of toxicity observed in either male or female rats. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401, GLP) (read across: 64742-56-9) (ECHA)
  dermal; rabbit(male/female); No visible signs of clinical toxicity were observed in male and female rabbits dosed with API 78-9 at 5000 mg/kg. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 402, GLP) (read across: 64742-56-9) (ECHA)
  inhalation: aerosol; rat(male/female); The test material which was deposited on the animal fur during exposure diminished by observation Day 10. No mortality in either the control or exposed group was reported. There were no statistically significant differences in mean body weight between groups. LC50 > 5.53 mg/L air /4h, no deaths (OECD TG 403) (read across: MRD-87-102) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : oral; rat; No clinical signs of toxicity observed in either male or female rats. LD50 > 5000 mg/kg bw, no deaths (read-across: CAS No. 64742-56-9) (OECD TG 401, GLP) (ECHA)
  dermal; rat; Skin irritation and the occurrence of soft stool occurred in some

animals, but this latter effect was transient. LD50 > 2000 mg/kg bw, no deaths (read-across: CAS No. 64742-53-6) (OECD TG 402, GLP) (ECHA)
inhalation: aerosol; rat; After removal from the chamber all of the animals had an extreme amount of test material on their fur. Post exposure the number of animals with material on their fur diminished and was absent by Day 10. LC50 > 5.53 mg/L air 4hrs, no deaths (read-across: CAS No. 64741-88-4) (OECD TG 403) (ECHA)

- ar-Nonyl-N-(nonylphenyl)benzenamine : oral; rat(male/female); No compound related gross organ changes were observed. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401) (ECHA)
dermal; rat(male/female); Piloerection, abnormal body positions, and dyspnea were seen, being common symptoms in acute toxicity testing. The animals recovered within 9 days. LD50 > 2000 ㎎/kg bw (OECD TG 402) (ECHA)
inhalation: aerosol; rat(male/female); Necropsy and histopathological examination revealed no substance-related findings. LC50 > 5.1 mg/L air /4h, no deaths (OECD TG 403) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : oral; rat(male/female); No clinical signs of toxicity observed in either male or female rats. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 401, GLP) (read across: 64742-56-9) (ECHA)
dermal; rabbit(male/female); No visible signs of clinical toxicity were observed in male and female rabbits dosed with API 78-9 at 5000 mg/kg. LD50 > 5000 ㎎/kg bw, no deaths (OECD TG 402, GLP) (read across: 64742-56-9) (ECHA)
inhalation: aerosol; rat(male/female); The test material which was deposited on the animal fur during exposure diminished by observation Day 10. No mortality in either the control or exposed group was reported. There were no statistically significant differences in mean body weight between groups. LC50 > 5.53 mg/L air /4h, no deaths (OECD TG 403) (read across: MRD-87-102) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : dermal; Respiratory distress and dehydration develop, and there are changes in the lungs, but no symptoms of the disease have been found. (HPVIS)
- N,N-Dimethyl-1-octadecanamine : oral; rat(male/female); Necropsy findings for the decedents and for the surviving animals were unremarkable. LD50 = 2116 ㎎/kg bw (OECD TG 401, GLP) (ECHA)

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Dermal; 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)
Inhalation; rat; 4 weeks; 0, 50, 220 or 1000 mg/m3; 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. (equivalent or similar to guideline OECD TG 412) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : rabbit(male/female); dermal; 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. (OECD TG 410, GLP) (ECHA)

- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : rat(male/female); oral; 0, 100, 500 and 1000 mg/kg/day; 28 days; The target organs for toxicity identified in this study were the liver and thyroid in males and females and the kidney in males. Because of the microscopic histopathologic findings in all test article-treated male groups, a no-observed-effect level (NOEL) could not be identified for males in this study. The 100 mg/kg/day dose was considered to be a no-observed-adverse effect level (NOAEL) in males. The NOEL for females in this study was 100 mg/kg/day. (OECD TG 407, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : rabbit(male/female); dermal; 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. (OECD TG 410, GLP) (read across: 64742-53-6) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : oral; rat; All animals in the 125 mg/kg/day survived to date of sacrifice. No details on clinical signs were provided. A NOAEL could not be identified and is less than 125 mg/kg/day when administered orally (OECD TG 408) (ECHA)
dermal; rabbit; 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: CAS No. 64742-53-6) (OECD TG 410, GLP) (ECHA)
inhalation; rat; No systemic effects were observed. As no systemic toxicity was observed, the overall NOAEL for systemic effects was > 980 mg/m3 (read-across: CAS No. 64742-70-7) (OECD TG 412) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : oral; rat(male); 28 days; Based on the absence of clinical findings and effects on body weight, dose levels of 100, 300 and 1000 mg/kg bw were chosen for subchronic dosing. (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : rat(male/female); dermal; 13 weeks; No systemic or local effects were considered significant, and the NOAEL is ≥ 2000 mg/kg/day. (OECD TG 411) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : rat(male/female); oral; 0, 50, 200, 1000 mg/kg/day; 28 days; No treatment related macroscopic finding were evident following 4 weeks of treatment or two weeks of recovery. NOAEL=50 mg/kg/day (OECD TG 407, GLP) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : rat; 12 mg/kg/day; 13weeks; NOAEL = 0.015%; Weight loss in some rats and partial histiocytosis in mesenteric lymph nodes (GLP) (HPVIS)
- N,N-Dimethyl-1-octadecanamine : oral; rat(male/female); 104 weeks; 0, 0.01, 0.1 and 0.2 % of the test compound; Under the conditions of the test, no substance related effects were observed in male and female rats after oral exposure for 104 weeks. The NOAEL is 42.3 (males) or 52.6 (females) mg/kg bw/day. (OECD TG 453) (read across) (ECHA)

○ **Aspiration hazard : Not classified**

- Distillates (petroleum), hydrotreated heavy paraffinic : Viscosity: 73.9 mm2/s (40°C)(ECHA) & hydrocarbons
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : 17.0 mm2/s (40 °C) (ECHA) & hydrocarbons
- 3- : Not applicable

(Decyloxy)tetrahydrothiophene 1,1-dioxide

- Distillates (petroleum), solvent-dewaxed heavy paraffinic : 52.1 mm2/s (40°C) & hydrocarbons
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : kinematic viscosity > 2 mm2/s (40°C) (CONCAWE, 2010a; CONCAWE, 1984; CONCAWE, 1997) (ECHA) & hydrocarbons
- ar-Nonyl-N-(nonylphenyl)benzenamine : 585 mPa.s at 40°C (ECHA) & not hydrocarbons
- Distillates (petroleum), solvent-refined heavy paraffinic : 19 cSt at 40°C & hydrocarbons (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : Not applicable

12. ECOLOGICAL INFORMATION

1) Ecotoxicity

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

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

Fish

- Distillates (petroleum), hydrotreated heavy paraffinic : 96h-LL50(Pimephales promelas) > 100 mg/L (OECD TG 203, GLP) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : 96h-LL50(Pimephales promelas) > 100 mg/L (OECD TG 203, GLP) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : 96h-LC50(Pimephales promelas) = 4.2 mg/L (OECD TG 203, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : 96h-LL50(Pimephales promelas) > 100 mg/L (OECD TG 203, GLP) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 96h-LL50(Pimephales promelas) > 100 mg/L (OECD TG 203, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : No toxic effects up to the limit of water solubility (< 5 μg/L)
- Distillates (petroleum), solvent-refined heavy paraffinic : 96h-LL50(Pimephales promelas) > 100 mg/L (OECD TG 203, GLP) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : 96h-LC50(Pimephales promelas) > 1000 mg/L (GLP) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : 96h-LC50 = 0.020 mg/L (estimated) (EOCSAR : Neutral Organic

SAR) (ECOSAR)

- N,N-Dimethyl-1-octadecanamine : 96h-LC50(Oncorhynchus mykiss) = 0.18 mg/L (OECD TG 203) (ECHA)

Invertebrates

- Distillates (petroleum), hydrotreated heavy paraffinic : 48h-EL50(Daphnia magna) > 10,000 mg/L (read across : 64742-53-6 or 64741-97-5) (equivalent or similar to guideline OECD TG 202) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : 48h-EL50(Daphnia magna) > 10000 mg/L (OECD TG 202) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : 48h-EC50(Daphnia magna) = 4.6 mg/L (OECD TG 202, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : 48h-EL50(Daphnia magna) > 10000 mg/L (OECD TG 202) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 48h-EL50(Daphnia magna) > 10000 mg/L (OECD TG 202) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : No toxic effects up to the limit of water solubility (< 5 μg/L)
- Distillates (petroleum), solvent-refined heavy paraffinic : 48h-EL50(Daphnia magna) > 10000 mg/L (OECD TG 202) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : 48h-EC50(Daphnia) > 1 mg/L (OECD TG 202, GLP) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : 48h-LC50(Daphnid) = 0.018 mg/L (estimated) (EOCSAR : Neutral Organic SAR) (ECOSAR)
- N,N-Dimethyl-1-octadecanamine : 48h-EC50(Daphnia magna) = 55.8 μg/L (OECD TG 202, GLP) (ECHA)

Aquatic algae

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : 0-72h-ErL50(Scenedesmus subspicatus) = 63 mg/L (OECD TG 201, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not available
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not available
- ar-Nonyl-N-(nonylphenyl)benzenamine : No toxic effects up to the limit of water solubility (< 5 μg/L)
- Distillates (petroleum), solvent-refined heavy paraffinic : Not available
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : 72h-ErC50(Pseudokirchnerella subcapitata) > 1 mg/L (OECD TG 201, GLP) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : 96h-EC50(Green Algae) = 0.077 mg/L (estimated) (EOCSAR : Neutral Organic SAR) (ECOSAR)
- N,N-Dimethyl-1-octadecanamine : 72h-ErC50(Desmodesmus subspicatus) = 14.1 μg/L (OECD TG 201, GLP) (ECHA)

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

Fish

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not available
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 14d-NOELR(Oncorhynchus mykiss)

>= 1000 mg/L (estimated) (ECHA)

- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : Not available
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : Not available

Invertebrates

- Distillates (petroleum), hydrotreated heavy paraffinic : 21d-NOEL(Daphnia magna)=10 mg/L (read across: 64742-53-6) (equivalent or similar to guideline OECD TG 211, GLP) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : 21d-NOEL(Daphnia magna) = 10 mg/L (OECD TG 211, GLP) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : 21d-NOEL(Daphnia magna) = 10 mg/L (OECD TG 211, GLP) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 21d-NOEL(Daphnia magna) = 10 mg/L (OECD TG 211, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : 21d-NOEL(Daphnia magna) = 10 mg/L (OECD TG 211, GLP) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : 21d-NOEC(Daphnia magna) = 0.036 mg/L (OECD TG 211, GLP) (ECHA)

Aquatic algae

- Distillates (petroleum), hydrotreated heavy paraffinic : 72h-NOErL(Pseudokirchnerella subcapitata) >= 100 mg/L (read across: 72623-87-1) (OECD TG 201) (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : 72h-NOErL(Pseudokirchneriella subcapitata) >=100 mg/L (OECD TG 201) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : 72h-NOErLR(Scenedesmus subspicatus) = 0.313 mg/L (OECD TG 201, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : 72h-NOErL(Pseudokirchneriella subcapitata) >=100 mg/L (OECD TG 201) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 72h-NOEL(Pseudokirchneriella subcapitata) >= 100 mg/L (OECD TG 201) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : 72h-NOErL(Pseudokirchneriella subcapitata) >=100 mg/L (OECD TG 201) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : 72h-NOErC(Desmodesmus subspicatus) = 5.17 μg/L (OECD TG 201, GLP) (ECHA)

2) Persistence and degradability

○ **Persistence**

- Distillates (petroleum), hydrotreated heavy paraffinic : This substance is UVCB, so it is not applicable. (ECHA)

- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : log Kow = 1.19 (OPPTS 830.7570, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : log Kow = 6.13 (experimental) (EPISUITE)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : log Kow = 6.43 (estimated) (EPISUITE)
- ar-Nonyl-N-(nonylphenyl)benzenamine : log Kow=12.24 (estimated) (EPISUITE); not valid (over -4<log Kow<8)
- Distillates (petroleum), solvent-refined heavy paraffinic : log Kow = 14.93 (estimated) (EPISUITE); not valid (over "-4<log Kow<8")
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : log Kow = 1.72 - 2.94 (21 °C) (OECD TG 107, GLP) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : log Kow = 6.63 (estimated) (EPISUITE)
- N,N-Dimethyl-1-octadecanamine : log Kow=5.1 (20 °C; pH:7.8) (calculated) (ECHA)

○ **Degradability**

- Distillates (petroleum), hydrotreated heavy paraffinic : The chemical constituents that comprise the other lubricant base oils category consist entirely of carbon and hydrogen and do not contain hydrolyzable groups. As such, they have a very low potential to hydrolyze. Therefore, this degradative process will not contribute to their removal from the environment. (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Photodegradation Half Life = 0.039 Days (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not available
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : They have a very low potential to hydrolyze (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : In contact with water no hydrolysis is expected. (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : Not available
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : Not available

3) Bioaccumulative potential

○ **Bioaccumulation**

- Distillates (petroleum), hydrotreated heavy paraffinic : This substance is UVCB, so it is not applicable. (ECHA)
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : BCF = 74.83 (estimated) (EPISUITE)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : BCF = 5147 (estimated) (EPISUITE)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : BCF = 8137 (estimated) (EPISUITE)
- ar-Nonyl-N-(nonylphenyl)benzenamine : BCF=35.87 (estimated) (EPISUITE)
- Distillates (petroleum), solvent-refined heavy paraffinic : BCF = 3.162 (estimated) (EPISUITE)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : BCF=15.71 (estimated) (EPISUITE)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : BCF = 465.6 (estimated) (EPISUITE)
- N,N-Dimethyl-1-octadecanamine : BCF=704.2 (estimated) (EPISUITE)

○ **Biodegradation**

- Distillates (petroleum), hydrotreated heavy paraffinic : Another lubricant base oil, Solvent Neutral 600 Base Oil (MRD-94 -981), was determined to be inherently biodegradable but not readily biodegradable with a mean degradation of 31.13% by day 28. (read across: Solvent Neutral 600 Base Oil (MRD-94-981)) (OECD TG 301F, GLP) (ECHA)

- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : 31 % degradation after 28d; not readily biodegradable (OECD TG 301F, GLP) (ECHA)
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : 9.6% degradation after 28 days; not readily biodegradable (OECD TG 301B, GLP) (HPVIS)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : 31 % degradation after 28d; not readily biodegradable (OECD TG 301F, GLP) (ECHA)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : 31% degradation after 28 days (OECD TG 301F, GLP) (ECHA)
- ar-Nonyl-N-(nonylphenyl)benzenamine : 1% degradation after 28 days; under test conditions no biodegradation observed (OECD TG 301B, GLP) (read across: TK12340) (ECHA)
- Distillates (petroleum), solvent-refined heavy paraffinic : 31 % degradation after 28d; not readily biodegradable (OECD TG 301F, GLP) (ECHA)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : 80% degradation after 14d (OECD TG 301C, GLP) (HPVIS)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : 68% degradation after 28 days; readily biodegradable (OECD TG 301D, GLP) (ECHA)

4) Mobility in soil

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Koc = 514.5 (EPISUITE)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Koc=208800 (EPISUITE)
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Koc = 380400 (estimated) (EPISUITE)
- ar-Nonyl-N-(nonylphenyl)benzenamine : Koc=44900000 (EPISUITE)
- Distillates (petroleum), solvent-refined heavy paraffinic : Koc=9065000000000 (EPISUITE)
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Koc = 2055000 (EPISUITE)
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Koc = 5059 (EPISUITE)
- N,N-Dimethyl-1-octadecanamine : Koc=316600 (EPISUITE)

5) Hazard to the ozone layer

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

6) Other adverse effects

- Distillates (petroleum), hydrotreated heavy paraffinic : Not available
- Trade secret : Not available
- Distillates (petroleum), hydrotreated light paraffinic : Not available

- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not available
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not available
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not available
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not available
- Distillates (petroleum), solvent-refined heavy paraffinic : Not available
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not available
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not available
- N,N-Dimethyl-1-octadecanamine : 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

- 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
- Transport regulations according to ADR/RID, AND, IMDG and ICAO/IATA : Not applicable

15. REGULATORY INFORMATION

EINECS(or ELINCS)

- Distillates (petroleum), hydrotreated heavy paraffinic : European EINECS phase-in substance
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : European EINECS phase-in substance
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : European EINECS phase-in substance
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : European EINECS phase-in substance
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : European EINECS phase-in substance
- ar-Nonyl-N-(nonylphenyl)benzenamine : European EINECS phase-in substance
- Distillates (petroleum), solvent-refined heavy paraffinic : European EINECS phase-in substance
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : European EINECS phase-in substance

- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : European EINECS phase-in substance
- N,N-Dimethyl-1-octadecanamine : European EINECS phase-in substance

EU CLP (CLASSIFICATION) - PRODUCT : Not applicable

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

Substances restricted under REACH

- Distillates (petroleum), hydrotreated heavy paraffinic : Substances restricted under REACH
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Substances restricted under REACH
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Substances restricted under REACH
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Substances restricted under REACH
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Substances restricted under REACH
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

Substances subject to authorization under REACH

REACH SVHC List

Korea

○ **Occupational Safety and Health Act**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **K-REACH**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable

- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **Chemical Control Act in Korea**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **Safety Control of Dangerous Substances Act**

- Distillates (petroleum), hydrotreated heavy paraffinic : Dangerous substance
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Dangerous substance
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

U.S.A

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable

- N,N-Dimethyl-1-octadecanamine : Not applicable

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

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **CERCLA Section 302 regulation**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **CERCLA Section 304 regulation**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **CERCLA Section 313 regulation**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable

- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

Interntional Convention on Environment

○ **Rotterdam Convention list**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **Stockholm Convention list**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **Montreal Protocol list**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

National Inventory

○ **Korea**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable

- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Not applicable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Not applicable
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Not applicable
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : Not applicable

○ **U.S.A**

- Distillates (petroleum), hydrotreated heavy paraffinic : US TSCA phase-in substance
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : US TSCA phase-in substance
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : US TSCA phase-in substance
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : US TSCA phase-in substance
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : US TSCA phase-in substance
- ar-Nonyl-N-(nonylphenyl)benzenamine : US TSCA phase-in substance
- Distillates (petroleum), solvent-refined heavy paraffinic : US TSCA phase-in substance
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : US TSCA phase-in substance
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : US TSCA phase-in substance
- N,N-Dimethyl-1-octadecanamine : US TSCA phase-in substance

○ **China**

- Distillates (petroleum), hydrotreated heavy paraffinic : China phase-in substance
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : China phase-in substance
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : China phase-in substance
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : China phase-in substance
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : China phase-in substance
- ar-Nonyl-N-(nonylphenyl)benzenamine : China phase-in substance
- Distillates (petroleum), solvent-refined heavy paraffinic : China phase-in substance
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : China phase-in substance
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : China phase-in substance
- N,N-Dimethyl-1-octadecanamine : China phase-in substance

○ **Japan**

- Distillates (petroleum), hydrotreated heavy paraffinic : Not applicable
- Trade secret : Not applicable
- Distillates (petroleum), hydrotreated light paraffinic : Not applicable
- 3-(Decyloxy)tetrahydrothiophene 1,1-dioxide : Japan ENCS phase-in substance
- Distillates (petroleum), solvent-dewaxed heavy paraffinic : Japan ENCS phase-in substance
- Lubricating oils (petroleum), (C=15-30), hydrotreated neutral oil-based : Not applicable
- ar-Nonyl-N-(nonylphenyl)benzenamine : Japan ENCS phase-in substance
- Distillates (petroleum), solvent-refined heavy paraffinic : Not applicable
- 2,5-Bis(tert-nonyldithio)-1,3,4-thiadiazole : Not applicable
- 2,2'-Iminobisethanol, N-tallow alkyl derivs. : Not applicable
- N,N-Dimethyl-1-octadecanamine : 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

- 2012-11-30

3) Revision number and Last date revised

○ **Number of revised**

- 8

○ **Date of last revision**

- 2026-05-21

○ **Last Revision History**

- update

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.