



Technical Data Sheet

Idemitsu 5W-30 SP/GF-6

Fully Synthetic Engine Oil

Description and Application

Idemitsu 5W-30 SP/GF-6 is a fully synthetic formulation with robust additive technology, enable engines to achieve maximum levels of efficiency, torque and horsepower.

Idemitsu 5W-30 SP/GF-6 helps extended engine life by minimizing wear & maintaining the engine free of harmful deposits, delivers extended drain intervals and reduce harmful emissions.

Features and Benefits

- *Engine Protection without compromise:* unique and potent additive components minimize the formation of deposits, even under extreme operating conditions to provide outstanding protection against wear of the engine parts.
- *Reduced Oil Consumption and Lower Emissions:* Carefully balanced formulation of high quality base oils and proprietary additives provide extremely low volatility and piston cleanliness which means less oil burn-off and emissions.
- *Maximum fuel economy:* high quality synthetic base oil combined with advanced friction modifying additive technology reduce friction and improve lubricant flow characteristics to deliver the highest level of fuel economy.

| Characteristics | Units | Test Method | Typical Value |
|----------------------------|-------------------|-------------|---------------|
| Density @15°C | g/cm ³ | ASTM D4052 | 0.8486 |
| Kinematic Viscosity @40°C | cSt | ASTM D445 | 55.61 |
| Kinematic Viscosity @100°C | cSt | ASTM D445 | 9.492 |
| Viscosity Index | - | ASTM D2270 | 155 |
| MRV TP-1 Viscosity @ -30°C | cP | ASTM D4684 | 16,000 |
| HTHS Viscosity @ 150°C | cP | ASTM D4883 | 2.97 |
| CCS Viscosity @ -30°C | cP | ASTM D5293 | 5,350 |
| NOACK Volatility | % wt Loss | ASTM D5800 | 8.5 |

Recommended Use

Idemitsu 5W-30 meet the performance requirements for –

- API SP (backward compatible to SN Plus),
- ILSAC GF-6A (backward compatible to ILSAC GF-5),
- Ford WSS-M2C961-A1 (backward compatible with Ford WSS-M2C946-B1).

Idemitsu 5W-30 is suitable for use where 5W-30 is recommended for –

- All Asian OEMs engine design
- TGD engines
- PFI engines

Health and Safety

Prior to any use, consult the Safety Data Sheet (SDS) for information on hazard risks and product use.

Idemitsu is ISO Certified

ISO 9001

ISO 14001

IATF 16949



Typical properties are provided as reference and may vary slightly. They do not constitute a specification.

Product formulations and information contained herein are subject to change without notification.



SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product Name: Idemitsu Full Synthetic Engine Oil 5W-30 GF-6,
12x1 Quart

Revision Date: 13-Mar-2020

Product Code: 30013015-75000C020

Revision Number: 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name: Idemitsu Full Synthetic Engine Oil 5W-30 GF-6, 12x1 Quart

Other means of identification

Product Code: 30013015-75000C020

1.2 Recommended use of the chemical and restrictions on use

Recommended Use: Automotive Lubricant

1.3 Details of the supplier of the safety data sheet

Manufactured by: Idemitsu Lubricants America Corporation

2. HAZARDS IDENTIFICATION

2.1 Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.2 Label elements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Hazards not otherwise classified (HNOC) Not applicable

2.3 Other information

Other hazards No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Non-Hazardous Components

| Chemical name | CAS-No | weight-% |
|-------------------------|---------|----------|
| Lubricating Base Stocks | Mixture | 90-100 |

Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

4. FIRST AID MEASURES

4.1 First Aid Measures

| | |
|-----------------------|---|
| General Advice | If symptoms persist, call a physician. Take a copy of the Safety Data Sheet when going for medical treatment. |
| Skin Contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. |
| Eye Contact | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If eye irritation persists: Get medical advice or attention. |
| Inhalation | Move to fresh air in case of accidental inhalation of vapors. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required. |
| Ingestion | Do not induce vomiting without medical advice. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. If symptoms persist, call a physician. |

Protection of First-aiders Use personal protective equipment. Avoid contact with eyes, skin and clothing.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties NFPA: Class IIIB Combustible Liquid

5.1 Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable Extinguishing Media:

Do not use a solid water stream as it may scatter and spread fire.

5.2 Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous combustion products

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and / or irritating. Combustion products may include and are not limited to:
Carbon oxides
Sulphur oxides
Oxides of Phosphorus
Nitrogen oxides (NOx)
Metal Oxides

5.3 Protective Equipment and Precautions for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use personal protection recommended in Section 8. Ensure adequate ventilation. Remove all sources of ignition.

6.2. Environmental precautions

Environmental Precautions Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Methods for Clean-up Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Spill Management

LARGE SPILLS Eliminate sources of ignition. Prevent additional discharge of material if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement

cleanup procedures and, if in public area, keep public away and advise authorities.

WATER SPILLS

Prevent liquid entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Recover by pumping or with suitable absorbent. If liquid is too viscous for pumping, scrape up. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

Do not breathe vapors, spray, or mist. Avoid contact with eyes, skin and clothing. Use personal protection recommended in the SDS. Remove and wash contaminated clothing before re-use. Keep away from open flames, hot surfaces and sources of ignition.

Safe Handling Advice

Handle in accordance with good industrial hygiene and safety practices. Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place.

Technical measures/Precautions

Ensure adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Guidelines

| Chemical name | OSHA PEL | ACGIH TLV | ACGIH OEL (STEL) | NIOSH REL TWA | ILA IHG | ILA ROEG | ILA Internal Exposure Limit |
|-------------------|--------------------------|--------------------------|------------------|--|---------|----------|-----------------------------|
| Oil mist, mineral | TWA: 5 mg/m ³ | TWA: 5 mg/m ³ | | TWA 5 mg/m ³ ST 10 mg/m ³ | | | |

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal Protective Equipment

Eye/face protection

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings.

Skin protection

Choose the appropriate protective clothing and gloves based on the tasks being performed to avoid exposed skin surfaces. **Glove Type:** Neoprene, Nitriles

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Clean equipment, work area and clothing regularly.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|-------------------------------|------------------------------------|
| Appearance | Light Brown |
| Physical state | Liquid |
| Odor | Not available |
| Odor Threshold | No information available |
| pH | Not applicable |
| Melting point / melting range | Not applicable |
| Boiling point / boiling range | No information available |
| Flash Point | > 200 °C / > 392 °F COC ASTM D92 |
| Evaporation Rate | No information available |
| Flammability Limit in Air | No information available |
| Explosion Limits | No information available |
| Vapor pressure @20 °C (kPa) | No information available |
| Vapor density | No information available |
| Density | 0.85 g/cm ³ @15°C |
| Solubility(ies) | No information available |
| Partition coefficient | No information available |
| Autoignition Temperature | No information available |
| Decomposing Temperature | No information available |
| Kinematic viscosity | @40C = 55.61 cSt; @100C = 9.49 cSt |

9.2. Other information

| | |
|-----------------------|--|
| DMSO extract by IP346 | Less than 3.0 wt% (mineral oil component only) |
|-----------------------|--|

10. STABILITY AND REACTIVITY

10.1. Reactivity

| | |
|------------|-----------------------------------|
| Reactivity | The product is chemically stable. |
|------------|-----------------------------------|

10.2. Chemical stability

| | |
|--------------------|--|
| Chemical Stability | Stable under recommended storage conditions. |
|--------------------|--|

10.3. Possibility of hazardous reactions

| | |
|------------------------------------|-------------------------------|
| Possibility of Hazardous Reactions | None under normal processing. |
|------------------------------------|-------------------------------|

10.4. Conditions to avoid

| | |
|---------------------|--------------------------|
| Conditions to Avoid | Heat, flames and sparks. |
|---------------------|--------------------------|

10.5. Incompatible materials

| | |
|------------------------|-------------------------|
| Incompatible Materials | Strong oxidizing agents |
|------------------------|-------------------------|

10.6. Hazardous decomposition products

Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

11.1 Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | May cause irritation of respiratory tract. |
| Eye contact | May cause slight irritation. |
| Skin Contact | May cause skin irritation and/or dermatitis. |
| Ingestion | May be harmful if swallowed. |

11.2 Information on toxicological effects

| | |
|-----------------|--------------------------|
| Symptoms | No information available |
|-----------------|--------------------------|

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|-----------------|
| Skin corrosion/irritation | Not classified. |
| Serious eye damage/eye irritation | Not classified. |
| Sensitization | Not classified. |
| Mutagenic effects | Not classified. |
| Reproductive Toxicity | Not classified |
| STOT - single exposure | Not classified. |
| STOT - repeated exposure | Not classified |
| Aspiration hazard | Not classified. |

11.4 Carcinogenicity

Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, OSHA or ACGIH.

Legend: *NTP (National Toxicology Program), IARC (International Agency for Research on Cancer), OSHA (Occupational Safety and Health Administration of the US Department of Labor), ACGIH (American Conference of Governmental Industrial Hygienists)*

11.5 Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

Product Information (Estimated):

| | |
|--------------------------------------|---------------|
| ATEmix (oral) | > 5,000 mg/kg |
| ATEmix (dermal) | > 5,000 mg/kg |
| ATEmix (inhalation-dust/mist) | > 5 mg/l |

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Ecotoxicity effects

No known significant effects or critical hazards. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

12.2 Persistence and degradability

The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

12.3. Bioaccumulative potential

No information available.

12.4 Mobility in Environmental Media

No information available.

12.5 Other adverse effects:

No information available.

PBT and vPvB assessment

No information available

13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Waste Disposal Method

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

| | |
|-----------------|---|
| TSCA | All ingredients are on the inventory or exempt from listing |
| DSL/NDSL | All ingredients are on the inventory or exempt from listing |
| ENCS | All ingredients are on the inventory or exempt from listing |
| IECSC | All ingredients are on the inventory or exempt from listing |
| KECL | All ingredients are on the inventory or exempt from listing |

| | |
|--------------|---|
| PICCS | All ingredients are on the inventory or exempt from listing |
| AICS | All ingredients are on the inventory or exempt from listing |
| NZIoC | All ingredients are on the inventory or exempt from listing |

USA

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazardous Categorization

| | |
|--|----|
| Acute health hazard | No |
| Chronic Health Hazard | No |
| Fire hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

CERCLA/SARA 302 & 304

Section 302 & 304 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 355.

| Chemical name | CAS-No | weight-% | RQ | TPQ |
|-----------------|----------|----------|---|--------------|
| Toluene | 108-88-3 | <0.0001 | RQ 1000lb final RQ RQ 454kg final RQ | |
| Ethyl benzene | 100-41-4 | <0.0001 | RQ 1000lb final RQ RQ 454kg final RQ | |
| 1,4-Dioxane | 123-91-1 | <0.0001 | RQ 100lb final RQ RQ 45.4kg final RQ | |
| Benzene | 71-43-2 | <0.0001 | RQ 10lb final RQ RQ 4.54kg final RQ | |
| Naphthalene | 91-20-3 | <0.0001 | RQ 100lb final RQ RQ 45.4kg final RQ | |
| Ethylene Oxide | 75-21-8 | <0.0001 | RQ 10lb final RQ RQ 4.54kg final RQ | 1000 lb TPQ |
| Propylene oxide | 75-56-9 | <0.0001 | RQ 100lb final RQ RQ 45.4kg final RQ | 10000 lb TPQ |

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

| Chemical name | CAS-No | weight-% | HAPS data |
|-----------------|----------|----------|-----------|
| Toluene | 108-88-3 | <0.0001 | X |
| Ethyl benzene | 100-41-4 | <0.0001 | X |
| 1,4-Dioxane | 123-91-1 | <0.0001 | X |
| Benzene | 71-43-2 | <0.0001 | X |
| Naphthalene | 91-20-3 | <0.0001 | X |
| Ethylene Oxide | 75-21-8 | <0.0001 | X |
| Propylene oxide | 75-56-9 | <0.0001 | X |

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CAS-No | weight-% | U.S. - CWA (Clean Water |
|---------------|--------|----------|-------------------------|
|---------------|--------|----------|-------------------------|

| | | | Act) |
|---|-----------|---------|------|
| Zinc dialkyl dithiophosphate | 2215-35-2 | <1 | X |
| zinc bis[O,O-bis(2-ethylhexyl)] bis (dithiophosphate) | 4259-15-8 | <1 | X |
| Toluene | 108-88-3 | <0.0001 | X |
| Ethyl benzene | 100-41-4 | <0.0001 | X |
| Benzene | 71-43-2 | <0.0001 | X |
| Naphthalene | 91-20-3 | <0.0001 | X |
| Propylene oxide | 75-56-9 | <0.0001 | X |

State Regulations

California Proposition 65

Label:



WARNING Cancer and Reproductive Harm

| Chemical name | CAS-No | weight-% | California Prop. 65 | Maximum Allowable Dose for Reproductive Toxicity (MADLS) | Safe Harbor Limits for Cancer-causing Chemicals (NSRLs) |
|-----------------|----------|----------|--|--|---|
| Toluene | 108-88-3 | <0.0001 | Developmental | 7000µg/daylevel represents absorbed dose | |
| Ethyl benzene | 100-41-4 | <0.0001 | Carcinogen | | 54 µg/day inhalation 41 µg/day oral |
| 1,4-Dioxane | 123-91-1 | <0.0001 | Carcinogen | | 30 µg/day |
| Benzene | 71-43-2 | <0.0001 | Carcinogen Developmental Male Reproductive | 24µg/dayoral 49µg/dayinhalation | 6.4 µg/day oral 13 µg/day inhalation |
| Naphthalene | 91-20-3 | <0.0001 | Carcinogen | | 5.8 µg/day |
| Ethylene Oxide | 75-21-8 | <0.0001 | Carcinogen Developmental Female Reproductive Male Reproductive | 20µg/day | 2 µg/day |
| Propylene oxide | 75-56-9 | <0.0001 | Carcinogen | | |

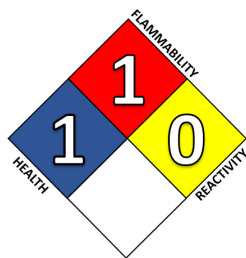
State Right-to-Know

This product does not contain any substances regulated by state right-to-know regulations

New Jersey Worker and Community Right-to-Know Act:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows:
PETROLEUM OIL (Lubricating Oil)

16. OTHER INFORMATION



NFPA

Health hazards: 1

Flammability: 1

Instability: 0

Prepared By: Aaron Keck

Revision Date: 13-Mar-2020

Revision Summary: New Item

Disclaimer:

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product Name: Idemitsu Full Synthetic Engine Oil 5W-30 GF-6,
4x5 Quart

Revision Date: 13-Mar-2020

Product Code: 30013015-95300C020

Revision Number: 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name: Idemitsu Full Synthetic Engine Oil 5W-30 GF-6, 4x5 Quart

Other means of identification

Product Code: 30013015-95300C020

1.2 Recommended use of the chemical and restrictions on use

Recommended Use: Automotive Lubricant

1.3 Details of the supplier of the safety data sheet

Manufactured by: Idemitsu Lubricants America Corporation

2. HAZARDS IDENTIFICATION

2.1 Classification

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2.2 Label elements

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Hazards not otherwise classified (HNOC) Not applicable

2.3 Other information

Other hazards No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixture

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Non-Hazardous Components

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4. FIRST AID MEASURES

4.1 First Aid Measures

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| Inhalation | Move to fresh air in case of accidental inhalation of vapors. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required. |
| Ingestion | Do not induce vomiting without medical advice. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. If symptoms persist, call a physician. |

Protection of First-aiders Use personal protective equipment. Avoid contact with eyes, skin and clothing.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological information.

4.3 Indication of any immediate medical attention and special treatment needed

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Flammable Properties NFPA: Class IIIB Combustible Liquid

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Sulphur oxides
Oxides of Phosphorus
Nitrogen oxides (NOx)
Metal Oxides

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As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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6.2. Environmental precautions

Environmental Precautions Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

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WATER SPILLS

Prevent liquid entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Recover by pumping or with suitable absorbent. If liquid is too viscous for pumping, scrape up. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

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Safe Handling Advice

Handle in accordance with good industrial hygiene and safety practices. Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place.

Technical measures/Precautions

Ensure adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Guidelines

| Chemical name | OSHA PEL | ACGIH TLV | ACGIH OEL (STEL) | NIOSH REL TWA | ILA IHG | ILA ROEG | ILA Internal Exposure Limit |
|-------------------|--------------------------|--------------------------|------------------|--|---------|----------|-----------------------------|
| Oil mist, mineral | TWA: 5 mg/m ³ | TWA: 5 mg/m ³ | | TWA 5 mg/m ³ ST 10 mg/m ³ | | | |

8.2 Exposure controls

Appropriate engineering controls

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|-------------------------------|------------------------------------|
| Appearance | Light Brown |
| Physical state | Liquid |
| Odor | Not available |
| Odor Threshold | No information available |
| pH | Not applicable |
| Melting point / melting range | Not applicable |
| Boiling point / boiling range | No information available |
| Flash Point | > 200 °C / > 392 °F COC ASTM D92 |
| Evaporation Rate | No information available |
| Flammability Limit in Air | No information available |
| Explosion Limits | No information available |
| Vapor pressure @20 °C (kPa) | No information available |
| Vapor density | No information available |
| Density | 0.85 g/cm ³ @15°C |
| Solubility(ies) | No information available |
| Partition coefficient | No information available |
| Autoignition Temperature | No information available |
| Decomposing Temperature | No information available |
| Kinematic viscosity | @40C = 55.61 cSt; @100C = 9.49 cSt |

9.2. Other information

| | |
|-----------------------|--|
| DMSO extract by IP346 | Less than 3.0 wt% (mineral oil component only) |
|-----------------------|--|

10. STABILITY AND REACTIVITY

10.1. Reactivity

| | |
|------------|-----------------------------------|
| Reactivity | The product is chemically stable. |
|------------|-----------------------------------|

10.2. Chemical stability

| | |
|--------------------|--|
| Chemical Stability | Stable under recommended storage conditions. |
|--------------------|--|

10.3. Possibility of hazardous reactions

| | |
|------------------------------------|-------------------------------|
| Possibility of Hazardous Reactions | None under normal processing. |
|------------------------------------|-------------------------------|

10.4. Conditions to avoid

| | |
|---------------------|--------------------------|
| Conditions to Avoid | Heat, flames and sparks. |
|---------------------|--------------------------|

10.5. Incompatible materials

| | |
|------------------------|-------------------------|
| Incompatible Materials | Strong oxidizing agents |
|------------------------|-------------------------|

10.6. Hazardous decomposition products

Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

11.1 Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | May cause irritation of respiratory tract. |
| Eye contact | May cause slight irritation. |
| Skin Contact | May cause skin irritation and/or dermatitis. |
| Ingestion | May be harmful if swallowed. |

11.2 Information on toxicological effects

| | |
|-----------------|--------------------------|
| Symptoms | No information available |
|-----------------|--------------------------|

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|-----------------|
| Skin corrosion/irritation | Not classified. |
| Serious eye damage/eye irritation | Not classified. |
| Sensitization | Not classified. |
| Mutagenic effects | Not classified. |
| Reproductive Toxicity | Not classified |
| STOT - single exposure | Not classified. |
| STOT - repeated exposure | Not classified |
| Aspiration hazard | Not classified. |

11.4 Carcinogenicity

Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, OSHA or ACGIH.

Legend: *NTP (National Toxicology Program), IARC (International Agency for Research on Cancer), OSHA (Occupational Safety and Health Administration of the US Department of Labor), ACGIH (American Conference of Governmental Industrial Hygienists)*

11.5 Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

Product Information (Estimated):

| | |
|--------------------------------------|---------------|
| ATEmix (oral) | > 5,000 mg/kg |
| ATEmix (dermal) | > 5,000 mg/kg |
| ATEmix (inhalation-dust/mist) | > 5 mg/l |

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Ecotoxicity effects

No known significant effects or critical hazards. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

12.2 Persistence and degradability

The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

12.3. Bioaccumulative potential

No information available.

12.4 Mobility in Environmental Media

No information available.

12.5 Other adverse effects:

No information available.

PBT and vPvB assessment

No information available

13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Waste Disposal Method

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

| | |
|-----------------|---|
| TSCA | All ingredients are on the inventory or exempt from listing |
| DSL/NDSL | All ingredients are on the inventory or exempt from listing |
| ENCS | All ingredients are on the inventory or exempt from listing |
| IECSC | All ingredients are on the inventory or exempt from listing |
| KECL | All ingredients are on the inventory or exempt from listing |

| | |
|--------------|---|
| PICCS | All ingredients are on the inventory or exempt from listing |
| AICS | All ingredients are on the inventory or exempt from listing |
| NZIoC | All ingredients are on the inventory or exempt from listing |

USA

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazardous Categorization

| | |
|--|----|
| Acute health hazard | No |
| Chronic Health Hazard | No |
| Fire hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

CERCLA/SARA 302 & 304

Section 302 & 304 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 355.

| Chemical name | CAS-No | weight-% | RQ | TPQ |
|-----------------|----------|----------|---|--------------|
| Toluene | 108-88-3 | <0.0001 | RQ 1000lb final RQ RQ 454kg final RQ | |
| Ethyl benzene | 100-41-4 | <0.0001 | RQ 1000lb final RQ RQ 454kg final RQ | |
| 1,4-Dioxane | 123-91-1 | <0.0001 | RQ 100lb final RQ RQ 45.4kg final RQ | |
| Benzene | 71-43-2 | <0.0001 | RQ 10lb final RQ RQ 4.54kg final RQ | |
| Naphthalene | 91-20-3 | <0.0001 | RQ 100lb final RQ RQ 45.4kg final RQ | |
| Ethylene Oxide | 75-21-8 | <0.0001 | RQ 10lb final RQ RQ 4.54kg final RQ | 1000 lb TPQ |
| Propylene oxide | 75-56-9 | <0.0001 | RQ 100lb final RQ RQ 45.4kg final RQ | 10000 lb TPQ |

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

| Chemical name | CAS-No | weight-% | HAPS data |
|-----------------|----------|----------|-----------|
| Toluene | 108-88-3 | <0.0001 | X |
| Ethyl benzene | 100-41-4 | <0.0001 | X |
| 1,4-Dioxane | 123-91-1 | <0.0001 | X |
| Benzene | 71-43-2 | <0.0001 | X |
| Naphthalene | 91-20-3 | <0.0001 | X |
| Ethylene Oxide | 75-21-8 | <0.0001 | X |
| Propylene oxide | 75-56-9 | <0.0001 | X |

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CAS-No | weight-% | U.S. - CWA (Clean Water |
|---------------|--------|----------|-------------------------|
|---------------|--------|----------|-------------------------|

| | | | Act) |
|---|-----------|---------|------|
| Zinc dialkyl dithiophosphate | 2215-35-2 | <1 | X |
| zinc bis[O,O-bis(2-ethylhexyl)] bis (dithiophosphate) | 4259-15-8 | <1 | X |
| Toluene | 108-88-3 | <0.0001 | X |
| Ethyl benzene | 100-41-4 | <0.0001 | X |
| Benzene | 71-43-2 | <0.0001 | X |
| Naphthalene | 91-20-3 | <0.0001 | X |
| Propylene oxide | 75-56-9 | <0.0001 | X |

State Regulations

California Proposition 65

Label:



WARNING Cancer and Reproductive Harm

| Chemical name | CAS-No | weight-% | California Prop. 65 | Maximum Allowable Dose for Reproductive Toxicity (MADLS) | Safe Harbor Limits for Cancer-causing Chemicals (NSRLs) |
|-----------------|----------|----------|--|--|---|
| Toluene | 108-88-3 | <0.0001 | Developmental | 7000µg/daylevel represents absorbed dose | |
| Ethyl benzene | 100-41-4 | <0.0001 | Carcinogen | | 54 µg/day inhalation 41 µg/day oral |
| 1,4-Dioxane | 123-91-1 | <0.0001 | Carcinogen | | 30 µg/day |
| Benzene | 71-43-2 | <0.0001 | Carcinogen Developmental Male Reproductive | 24µg/dayoral 49µg/dayinhalation | 6.4 µg/day oral 13 µg/day inhalation |
| Naphthalene | 91-20-3 | <0.0001 | Carcinogen | | 5.8 µg/day |
| Ethylene Oxide | 75-21-8 | <0.0001 | Carcinogen Developmental Female Reproductive Male Reproductive | 20µg/day | 2 µg/day |
| Propylene oxide | 75-56-9 | <0.0001 | Carcinogen | | |

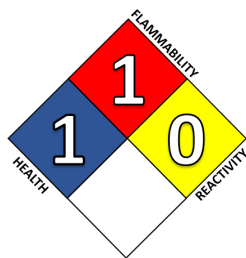
State Right-to-Know

This product does not contain any substances regulated by state right-to-know regulations

New Jersey Worker and Community Right-to-Know Act:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows:
PETROLEUM OIL (Lubricating Oil)

16. OTHER INFORMATION



NFPA

Health hazards: 1

Flammability: 1

Instability: 0

Prepared By: Aaron Keck

Revision Date: 13-Mar-2020

Revision Summary: New Item

Disclaimer:

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet