



Technical Data Sheet

Idemitsu 0W-20 SP/GF-6

Fully Synthetic Engine Oil

Description and Application

Idemitsu 0W-20 SP/GF-6 is a fully synthetic formulation with robust additive technology, enable engines to achieve maximum levels of efficiency, torque and horsepower.

Idemitsu 0W-20 SP/GF-6 helps extended engine life by minimizing wear & maintaining the engine free of harmful deposits, delivers extended drain intervals and protects emission control systems.

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.
- *Low-Speed Pre-Ignition (LSPI) Control:* Optimized detergent chemistry effectively eliminates LSPI (also known as stochastic pre-ignition) events, most common in certain TGDI vehicles operating at low-speeds and high-loads.
- *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.

Recommended Use

Idemitsu 0W-20 meet the performance requirements for –

- API SP (backward compatible to SN Plus),
- ILSAC GF-6A (backward compatible to ILSAC GF-5),
- Ford WSS-M2C962-A1 (backward compatible with Ford WSS-M2C947-B1.

Idemitsu 0W-20 is suitable for use where 0W-20 is recommended for –

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

Health and Safety

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

Characteristics	Units	Test Method	Typical Value
Density @15°C	g/cm ³	ASTM D4052	0.8438
Kinematic Viscosity @40°C	cSt	ASTM D445	44.09
Kinematic Viscosity @100°C	cSt	ASTM D445	8.267
Viscosity Index	-	ASTM D2270	165
MRV TP-1 Viscosity @ -40°C	cP	ASTM D4684	18,200
HTHS Viscosity @ 150°C	cP	ASTM D4883	2.64
CCS Viscosity @ -30°C	cP	ASTM D5293	5700
NOACK Volatility	% wt Loss	ASTM D5800	11.6

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 0W-20 GF-6,
12x1 Quart

Revision Date: 13-Mar-2020

Product Code: 30013012-75000C020

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 0W-20 GF-6, 12x1 Quart

Other means of identification

Product Code: 30013012-75000C020

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. Call a physician immediately.
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
Nitrogen oxides (NOx)
Sulphur oxides
Metal Oxides
Oxides of Phosphorus

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 See section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow into any sewer, on the ground or into any body of water. Do not flush into surface water or sanitary sewer system. 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 containers tightly closed in a dry, cool 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)	NIOSHT 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	Do not eat, drink or smoke when using this product. Clean equipment, work area and clothing regularly. Handle in accordance with good industrial hygiene and safety practices.

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	0.84 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 = 44.09 cSt; @100C = 6.8 cSt

9.2. Other information

DMSO extract by IP346	Less than 3.0 wt% (mineral oil component only)
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10. STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity	The product is chemically stable.
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10.2. Chemical stability

Chemical Stability	Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions	None under normal processing.
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10.4. Conditions to avoid

Conditions to Avoid	Heat, flames and sparks.
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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
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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

DOT - Bulk 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:



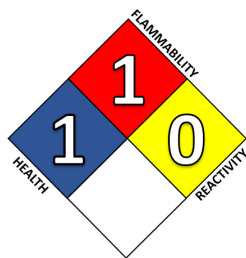
WARNING Cancer and Reproductive Harm

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

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 0W-20 GF-6,
4x5 Quart

Revision Date: 13-Mar-2020

Product Code: 30013012-95300C020

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 0W-20 GF-6, 4x5 Quart

Other means of identification

Product Code: 30013012-95300C020

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

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. Call a physician immediately.
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
Nitrogen oxides (NOx)
Sulphur oxides
Metal Oxides
Oxides of Phosphorus

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 See section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow into any sewer, on the ground or into any body of water. Do not flush into surface water or sanitary sewer system. 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 containers tightly closed in a dry, cool 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)	NIOSHT 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	Do not eat, drink or smoke when using this product. Clean equipment, work area and clothing regularly. Handle in accordance with good industrial hygiene and safety practices.

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	0.84 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 = 44.09 cSt; @100C = 6.8 cSt

9.2. Other information

DMSO extract by IP346	Less than 3.0 wt% (mineral oil component only)
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10. STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity	The product is chemically stable.
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10.2. Chemical stability

Chemical Stability	Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions	None under normal processing.
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10.4. Conditions to avoid

Conditions to Avoid	Heat, flames and sparks.
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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
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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

DOT - Bulk 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:



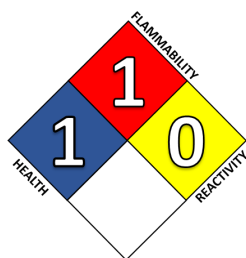
WARNING Cancer and Reproductive Harm

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

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