

Section 4: First Aid Measures

Eyes	: Immediately flush eyes with large amounts of water until irritation subsides. Get prompt medical attention.
Skin	: Immediately flush with large amount of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, seek medical attention.
Ingestion	: If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.
Inhalation	: Vapor pressure of this material is low and as such inhalation under normal conditions is usually not a problem. If overexposed to oil mist, remove from further exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.
Advice to Doctor	: None applicable.

Section 5: Fire Fighting Measures

Extinguishing Media

Appropriate Extinguishing Media	: Use water fog, foam, dry chemical or carbon dioxide (CO ₂) to extinguish flames.
Inappropriate Extinguishing Media	: Water in jet.

Special Hazards

Complex mixture of airborne solids, liquid particulates and gases. Carbon Monoxide may be formed due to incomplete combustions.

Fire Fighting

Evacuate Area

Prevent run off from fire control or dilution from entering sewers, drinking water supply or any water bodies (Streams, lakes, sea).

Use Extinguishing Measures appropriate to local circumstances and the surrounding environment.

Use Standard Protective Equipment & Self-Contained Breathing Apparatus (SCBA) in enclosed spaces. Chemical Resistance Suit should be worn if contact with spilled material is expected

Section 6: Accidental Release Measures

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Protective Measures

Avoid contact with spilled material. See Section 5 for fire-fighting information. See the Section 2 for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self-Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

Spill Management

Land Spill: Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible, to do so without hazard. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth.

Recover by pumping or by using a suitable absorbent.

Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

Water Spill: Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

Environmental Precautions

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

Section 7: Handling and Storage

Handling

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapours from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

Storage

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

Section 8: Exposure Controls / Personal Protection

Components with workplace control parameters

Components	CAS No.	Form of Exposure	Control Parameters (mg/m ³)	Basis
Oil Mist, Mineral	Not Assigned	PEL (Long Term) (Mist)	5	SG OEL
Oil Mist, Mineral	Not Assigned	PEL (Short Term) (Mist)	10	SG OEL
Oil Mist, Mineral	Not Assigned	TWA (Inhalable Fraction)	5	US. ACGIH Threshold Limit Values
Oil Mist, Mineral	Not Assigned	TWA (Mist)	5	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances
Oil Mist, Mineral	Not Assigned	Mist	10	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances
Oil Mist, Mineral	Not Assigned	TWA (Mist)	5	OSHA Z-1
	Not Assigned	TWA (Inhalable Fraction)	5	ACGIH

Exposure limits/standards for materials that can be formed when handling this product:

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits: No biological limits allocated.

Engineering Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.

Control measures to consider:

No special requirement under ordinary conditions of use and with adequate ventilation.

Personal Protection

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Particulate

No special requirement under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Nitrile, Viton

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

Environmental Controls

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

Section 9: Physical and Chemical Properties

General Information

Physical State	: Liquid
Colour	: Amber
Odour	: Petroleum Odour
Relative Density	: 0.890
Viscosity @ 100°C	: 9.0 – 16.0
Viscosity Index	: > 140
Vapour Density	: Not available
Boiling Point	: Not available
Flash Point COC, °C	: Min 200
Pour Point, °C	: Max -30
Solubility in Water	: Negligible
Odour Threshold	: Not available

Section 10: Stability and Reactivity

Hazardous Decomposition Products:

None known.

Chemical Stability:

Stable.

Conditions to Avoid:

No data available.

Incompatibility with Other Materials:

May react with strong oxidizing agents such as chlorate, nitrates, peroxides, etc.

Hazardous Polymerization:

Polymerization will not occur.

Hazardous Decomposition:

Fumes, smoke, carbon monoxide and Sulphur oxides in case of incomplete combustion.

Section 11: Toxicological Information

Information on Toxicological Effect

Hazard Class	Conclusion/Remarks
Inhalation	
Acute toxicity: No end point data for material	Minimally toxic: Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute toxicity: No end point data for material	Minimally toxic: Based on assessment of the components.
Skin	
Acute toxicity: No end point data for material	Minimally toxic: Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: No data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

Other Information

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitisation, based on tests of the components, this formulation, or similar formulations.

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies. Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

IARC Classification:

The following ingredients are cited on the lists below: None

-- Regulatory Lists Searched --

1 = IARC 1

2 = IARC 2A

3 = IARC 2B

Section 12: Ecological Information

Eco-Toxicity : This product is not expected to be harmful to aquatic organisms.

Mobility : Low solubility, floats, migrates from water and partitions to sediments and wastewaters solids.

Biodegradability : Not readily biodegradable – may present environmental risk when spillage occurs.

Section 13: Disposal Considerations

It is the responsibility of the user of the products to determine, at the time of disposal whether the product meets criteria for hazardous wastes. Product uses, transformations, mixture and processes, may render the resulting material hazardous.

Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact our sales representative or local environmental or health authorities for approved disposal or recycling methods.

Disposal Recommendations

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Empty Container Warning

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Section 14: Transport Information

14.1

UN Number : Not applicable

Dangerous Good Class : Not applicable

Proper Shipping Name : Not applicable

Hazchem Code : Not applicable

Additional Information : None determined

14.2 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

14.3 Transport IMDG

The product is not subject to IMDG regulations.

14.4 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

Section 15: Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture.

Local Regulations

Workplace Safety and Health Act & Workplace Safety and Health (General Provision) Regulations	This product is not subject to control under this Act/ Regulation.
Fire Safety Act and Fire Safety (Petroleum & Flammable Materials) Regulations	
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives) Regulations	
Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations	

Section 16: Other Information

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Key to Abbreviations

H-codes contained in Section 3 of this document (for information only):

H303: May be harmful if swallowed; Acute toxicity oral, Cat 5

H315: Causes skin irritation; Skin corrosion/irritation, Cat 2

H318: Causes serious eye damage; Serious eye damage/irritation, Cat 1

H401: Toxic to aquatic life; Acute environmental toxicity, Cat 2

H411: Toxic to aquatic life with long lasting effects; Chronic environmental toxicity, Cat 2

The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties.

Recipients of our products must take responsibility for observing existing laws and regulations.