MSDS SUPPLEMENT TO GHS REGULATIONS

To comply with the Hazardous Substance and New Organisms Act, this coversheet offers New Zealand specific information. This page "0", is to be considered part of the MSDS.

PRODUCT NAME & COMPANY IDENTIFICATION

Product Name	Date of Issue
OPTIGEAR BM 68	17/04/2024

Company Name:	**Industrial Lubricants & Services NZ Ltd** 1/15 Accent Drive East Tamaki Auckland, 2013
Emergency Contact:	**National Poisons Centre - NZ** 0800 764 766 or Chemcall 0800 243 622

Hazard Identification

As per Hazardous Substances (Hazard Classification) Notice 2020, this material is classified as:

GHS SKIN SENSITIZATION - Category 1

Under the Transport of Dangerous Goods on Land NZS 5433:2020 this product is not considered Dangerous Goods for Transport:

Other Information

HSN (Tariff Code)	2710.12.59 19B
Shelf Life	5 Years

SAFETY DATA SHEET

Section 1. Identification

Product name Optigear BM 68

SDS # 450749

Code 450749-US03

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

Product use Gear lubricant
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: +1-888-CASTROL

EMERGENCY HEALTH INFORMATION: +1-800-447-8735

EMERGENCY SPILL INFORMATION: +1-800-424-9300 (CHEMTREC USA)
+1-703-527-3887 (CHEMTREC outside the US)

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms

Signal word Warning

Hazard statements May cause an allergic skin reaction.

Precautionary statements

Prevention Wear protective gloves. Avoid breathing vapor. Contaminated work clothing must not be allowed out of the workplace.

Response Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Storage Not applicable.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified Defatting to the skin.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Highly refined mineral oil and additives.

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic	≥50 - ≤75	64742-54-7
Distillates (petroleum), hydrotreated heavy paraffinic	≥25 - ≤50	64742-54-7
Residual oils (petroleum), solvent-dewaxed	≤3	64742-62-7
Zinc dialkyl dithiophosphate	≤2.4	68457-79-4
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	≤1.9	-
maleic anhydride	<0.1	108-31-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention. If skin irritation or rash occurs: Get medical advice/ attention.

Inhalation If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention if adverse health effects persist or are severe.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media

Do not use water jet.

Specific hazards arising from the chemical

Swarf fires - Neat metal working oils may fume, thermally decompose or ignite if they come into contact with red hot swarf. To minimise the generation of red hot swarf ensure that a sufficient flow of oil is correctly directed to the cutting edge of the tool to flood it throughout cutting operations. As an additional precaution swarf should be regularly cleared from the immediate area to prevent the risk of fire. In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products

Combustion products may include the following:
metal oxide/oxides
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
nitrogen oxides (NO, NO_2 etc.)

Special protective actions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Section 7. Handling and storage

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Concentrations of mist, fumes and vapors in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid, as can bacteria, and as a result may induce allergic and other skin reactions, especially if personal hygiene is inadequate.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. Contaminated work clothing should not be allowed out of the workplace. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Sulfur compounds in this material may decompose when heated to release hydrogen sulfide gas which may accumulate to potentially lethal concentrations in enclosed air spaces. Vapor concentrations of hydrogen sulfide above 50 ppm, or prolonged exposure at lower concentrations, may saturate human odor perceptions so that the smell of gas may not be apparent. Exposure to concentrations of hydrogen sulfide vapor above 500 ppm may cause rapid death. Do not rely on the sense of smell to detect hydrogen sulfide.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Distillates (petroleum), hydrotreated heavy paraffinic	**ACGIH TLV (United States). [Mineral Oil, pure, highly and severely refined]** TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction **OSHA PEL (United States). [Oil mist, mineral]** TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/1993
Distillates (petroleum), hydrotreated heavy paraffinic	**ACGIH TLV (United States). [Mineral Oil, pure, highly and severely refined]** TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction **OSHA PEL (United States). [Oil mist, mineral]** TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/1993
Residual oils (petroleum), solvent-dewaxed	**ACGIH TLV (United States). [Mineral Oil, pure, highly and severely refined]** TWA: 5 mg/m³ 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction **OSHA PEL (United States). [Oil mist, mineral]**

	TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/1993
Zinc dialkyl dithiophosphate	None.
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	None.
maleic anhydride	**ACGIH TLV (United States). Skin sensitizer. Inhalation sensitizer.** TWA: 0.01 mg/m³ 8 hours. Issued/Revised: 4/2014 Form: Inhalable fraction and vapor **OSHA PEL (United States).** TWA: 0.25 ppm 8 hours. Issued/Revised: 6/1993 TWA: 1 mg/m³ 8 hours. Issued/Revised: 6/1993

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/ manufacturer and with a full assessment of the working conditions.

Body protection

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or

Section 8. Exposure controls/personal protection

if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
For protection against metal working fluids, respiratory protection that is classified as “resistant to oil” (class R) or oil proof (class P) should be selected where appropriate. Depending on the level of airborne contaminants, an air-purifying, half-mask respirator (with HEPA filter) including disposable (P- or R-series) (for oil mists less than 50mg/m3), or any powered, air-purifying respirator equipped with hood or helmet and HEPA filter (for oil mists less than 125 mg/m3).
Where organic vapours are a potential hazard during metalworking operations, a combination particulate and organic vapour filter may be necessary.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state Liquid.

Color Brown. [Dark]

Odor Petroleum [Slight]

Odor threshold Not available.

pH Not applicable.

Melting point/freezing point Not available.

Boiling point, initial boiling point, and boiling range Not available.

Flash point Closed cup: 193°C (379.4°F) [Pensky-Martens]
Open cup: 200°C (392°F) [Cleveland]

Pour point -24 °C

Evaporation rate Not available.

Flammability Not applicable. Based on - Physical state

Lower and upper explosion limit/flammability limit Not available.

Vapor pressure

Ingredient name	Vapor Pressure at 20˚C			Vapor pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Distillates (petroleum), hydrotreated heavy paraffinic	<0.07501	<0.01	ASTM D 5191			
Distillates (petroleum), hydrotreated heavy paraffinic	<0.07501	<0.01	ASTM D 5191			
Residual oils (petroleum), solvent-dewaxed	<0.07501	<0.01	ASTM D 5191			
Zinc dialkyl dithiophosphate	0.000019	0.0000025	EU A.4	0.00017	0.000023	EU A.4

Relative vapor density Not available.

Density <1000 kg/m³ (<1 g/cm³) at 15.6°C

Solubility(ies)

Section 9. Physical and chemical properties

Media	Result
water	Not soluble

Partition coefficient: n-octanol/water Not applicable.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Kinematic: 68 mm^2/s (68 cSt) at 40°C
Kinematic: 9.1 mm^2/s (9.1 cSt) at 100°C

VOC 4.1 g/l

Particle characteristics

Median particle size Not applicable.

Section 10. Stability and reactivity

Reactivity No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid Avoid excessive heat.

Incompatible materials Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Hydrogen Sulfide (H2S)

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	Rat	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	Rat	>5000 mg/kg	-	Based on studies with similar substances.

Section 11. Toxicological information

	LD50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
Zinc dialkyl dithiophosphate	LD50 Dermal	Rat	>20000 mg/kg	-	-
	LD50 Oral	Rat	3600 mg/kg	-	-
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	LD50 Dermal	Rat	>2000 mg/kg	-	-
	LD50 Oral	Rat	>2000 mg/kg	-	-
maleic anhydride	LD50 Dermal	Rabbit	2620 mg/kg	-	-
	LD50 Oral	Rat	1090 mg/kg	-	-

Conclusion/Summary Not available.

Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Conc.	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on studies with similar substances.
	Rabbit	Skin - Mild irritant	-	-	-	-	Based on studies with similar substances.
Distillates (petroleum), hydrotreated heavy paraffinic	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on studies with similar substances.
	Rabbit	Skin - Mild irritant	-	-	-	-	Based on studies with similar substances.
Zinc dialkyl dithiophosphate	Rabbit	Eyes - Severe irritant	-	-	-	-	-
	Rabbit	Skin - Irritant	-	-	-	-	-
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	Rabbit	Eyes - Redness of the conjunctivae	≥2	-	-	-	-
	Rabbit	Skin - Moderate irritant	-	-	-	-	-
maleic anhydride	Rabbit	Eyes - Corrosive	-	-	-	-	-
	Rabbit	Skin - Corrosive	-	-	-	-	-

Sensitizer

Section 11. Toxicological information

Product/ingredient name	Route of exposure	Species	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	skin	Guinea pig	Not sensitizing	Based on studies with similar substances.
Distillates (petroleum), hydrotreated heavy paraffinic	skin	Guinea pig	Not sensitizing	Based on studies with similar substances.
Zinc dialkyl dithiophosphate	skin	Guinea pig	Not sensitizing	Based on studies with similar substances.
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	skin	Guinea pig	Sensitizing	-
maleic anhydride	Respiratory	Rat	Sensitizing	-
	skin	Mouse	Sensitizing	SCL >/= 0.001% Cat 1A

Mutagenicity

Product/ingredient name	Test	Experiment	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	Based on studies with similar substances.
	473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
	476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
	474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
Distillates (petroleum), hydrotreated heavy paraffinic	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	Based on studies with similar substances.
	473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
	476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.

	474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
Zinc dialkyl dithiophosphate	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative	Based on studies with similar substances.
	476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammal - species unspecified	Negative	-
	474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
maleic anhydride	OECD 471	Experiment: In vitro Subject: Bacteria	Negative	-
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative	Based on studies with similar substances.
	OECD 475	Experiment: In vivo Subject: Mammalian-Animal	Negative	-

Conclusion/Summary Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Result	Exposure
Zinc dialkyl dithiophosphate	Positive	Negative	Negative	Rat	Oral	-

Conclusion/Summary Not available.

Product/ingredient name	Test	Species	Result	Exposure
Zinc dialkyl dithiophosphate	Negative - Oral	Rat	-	-

Conclusion/Summary Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
maleic anhydride	Category 1	inhalation	respiratory system

Aspiration hazard

Name	Result
Distillates (petroleum), hydrotreated heavy paraffinic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact May cause an allergic skin reaction.

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Section 11. Toxicological information

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Skin contact Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Inhalation No specific data.

Ingestion No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	178942.57 mg/kg

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Product/ingredient name	Species	Test/Result	Exposure	Effects	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	Daphnia	Acute EL50 >10000 mg/l	48 hours	-	-
	Fish	Acute LL50 >100 mg/l	96 hours	-	-
	Algae	Chronic NOEL ≥100 mg/l	72 hours	-	Based on studies with similar substances.
	Daphnia	Chronic NOEL 10 mg/l	21 days	-	Based on studies with similar substances.

Distillates (petroleum), hydrotreated heavy paraffinic	Daphnia	Acute EL50 >10000 mg/l	48 hours	-	-
	Fish	Acute LL50 >100 mg/l	96 hours	-	-
	Algae	Chronic NOEL ≥100 mg/l	72 hours	-	Based on data available for this or related materials.
	Daphnia	Chronic NOEL 10 mg/l	21 days	-	Based on studies with similar substances.
Zinc dialkyl dithiophosphate	Daphnia	Acute EL50 23 mg/l	48 hours	-	-
	Algae	Acute ErL50 24 mg/l	72 hours	-	-
	Fish	Acute LL50 4.5 mg/l	96 hours	-	-
	Algae	Chronic NOELR 10 mg/l	72 hours	-	-
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	Daphnia	Chronic EC50 6.8 mg/l	48 hours	-	-
maleic anhydride	Algae	Acute EC50 65.78 mg/l	72 hours	-	-
	Daphnia	Acute EC50 37.9 mg/l	48 hours	-	-
	Fish	Acute LC50 75 mg/l	72 hours	-	-
	Algae	Chronic EC10 10.4 mg/l	72 hours	-	-

Conclusion/Summary Not available.

Persistence and degradability

Not expected to be rapidly degradable.

Product/ingredient name	Test	Result	Remarks
Distillates (petroleum), hydrotreated heavy paraffinic	OECD 301F	31 % - Not readily - 28 days	Based on studies with similar substances.
Distillates (petroleum), hydrotreated heavy paraffinic	OECD 301F	31 % - Not readily - 28 days	Based on studies with similar substances.
Zinc dialkyl dithiophosphate	OECD 301B	1.5 % - Not readily - 28 days	-
maleic anhydride	OECD 301B	>90 % - 25 days	Readily biodegradable

Conclusion/Summary Not available.

Bioaccumulative potential

Not available.

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Non-volatile. Liquid. insoluble in water.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

Special precautions for user Not available.

Transport in bulk according to IMO instruments Not available.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b) All components are active or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification SKIN SENSITIZATION - Category 1

SARA 313

Section 15. Regulatory information

	Product name	CAS number	Concentration
Form R - Reporting requirements	Zinc dialkyl dithiophosphate	68457-79-4	1.4142
Supplier notification	Zinc dialkyl dithiophosphate	68457-79-4	1.4142

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts The following components are listed: OIL MIST, MINERAL; OIL MIST, MINERAL; OIL MIST, MINERAL

New Jersey The following components are listed: ZINC compounds

Pennsylvania The following components are listed: ZINC COMPOUNDS

California Prop. 65

⚠ **WARNING**: This product can expose you to chemicals including 2-ethylhexyl acrylate and Ethyl acrylate, which are known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Other regulations

Australia inventory (AIIC) All components are listed or exempted.

Canada inventory At least one component is not listed in DSL but all such components are listed in NDSL.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (CSCL) At least one component is not listed.

Korea inventory (KECI) At least one component is not listed.

Philippines inventory (PICCS) At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

REACH Status For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

National Fire Protection Association (U.S.A.)

History

Date of issue/Date of revision 04/17/2024.

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Prepared by Product Stewardship

Key to abbreviations

ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit

Section 16. Other information

TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.
Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

Indicates information that has changed from previously issued version.

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