



SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

SDS # : 083930

MULTIS COMPLEX HV 2 MOLY

Date of the previous version: 2015-10-13

Revision Date: 2019-05-07

Version 2

1. IDENTIFICATION

Product identifier

Product name MULTIS COMPLEX HV 2 MOLY

Other means of identification

Product Code(s) 083930

**Number
Substance/mixture** LSO
Mixture

Recommended use of the chemical and restrictions on use

Identified uses Lubricating grease.

Uses advised against Do not use for any purpose other than the one for which it is intended

Details of the supplier of the safety data sheet

Supplier Address TOTAL Specialties USA, Inc.
1201 Louisiana St. Suite 1800
Houston, TX 77002
Phone: 713-483-5000

Contact Point Technical/ HSEQ

E-mail Address USRMLIN-info@total.com

Emergency telephone number

Company Phone Number

Emergency telephone

+1 (908) 862-9300
1-866-928-0789 (For Emergencies, call CARECHEM 24/7
Domestic)
1-215-207-0061 (For Emergencies, call CARECHEM 24/7
International)

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation - Category 2A

Label elements



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**WARNING**

Causes serious eye irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Hazards not otherwise classified (HNOC)

None known

Other information**Physical-Chemical Properties** Contaminated surfaces will be extremely slippery.**Environmental properties** Should not be released into the environment.**3. COMPOSITION/INFORMATION ON INGREDIENTS****Mixture****Chemical nature** Mineral oil of petroleum origin.

Chemical Name	CAS-No	Weight %
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	50<75
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	<3

Additional information Product containing mineral oil with less than 3% DMSO extract as measured by IP 346**4. FIRST AID MEASURES****First aid measures for different exposure routes**



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General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. High pressure jets may cause skin damage. Take victim immediately to hospital.
Inhalation	Remove casualty to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration.
Ingestion	Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Protection of First-aiders	First aider needs to protect himself. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed

Skin contact	Not classified based on available data. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.
Eye contact	Causes serious eye irritation.
Inhalation	Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Ingestion	Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	No information available.

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

Notes to physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

<u>Suitable Extinguishing Media</u>	Carbon dioxide (CO ₂). ABC powder. Foam. Water spray or fog.
<u>Unsuitable Extinguishing Media</u>	Do not use a solid water stream as it may scatter and spread fire.
<u>Special Hazard</u>	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Sulfur oxides. Phosphorous oxides. Zinc oxides. Incomplete combustion and thermolysis produces



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potentially toxic gases such as carbon monoxide and carbon dioxide. Mercaptans.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

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. Evacuate non-essential personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

General Information Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

Other information See Section 12 for additional information.

Environmental precautions

General Information Do not allow material to contaminate ground water system. Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment If necessary dike the product with dry earth, sand or similar non-combustible materials.

Methods for cleaning up Dispose of contents/container in accordance with local regulation. In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling For personal protection see section 8. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing.

Prevention of fire and explosion Take precautionary measures against static discharges.

Hygiene measures Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

Conditions for safe storage, including any incompatibilities



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Technical measures/Storage conditions

Keep away from food, drink and animal feedingstuffs. Keep in a banded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Store at room temperature. Protect from moisture.

Materials to Avoid

Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Mineral oil mist:
USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

Exposure controls

Engineering Measures

Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

General Information

Protective engineering solutions should be implemented and in use before personal protective equipment is considered. These recommendations apply to the product as supplied.

Eye/face protection

Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing.

Hand Protection

Hydrocarbon-proof gloves. Fluorinated rubber. Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

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. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.



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Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Color	gray
Physical State @20°C	solid
Odor	Mild Petroleum solvent
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH		Not applicable	
Melting point/range		No information available	
Boiling point/boiling range		No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability Limits in Air			
upper		No information available	
Lower		No information available	
Vapor Pressure		No information available	
Vapor density		No information available	
Relative density	0.900	@ 15 °C	
Density	900 kg/m ³	@ 15 °C	
Water solubility		Insoluble	
Solubility in other solvents		No information available	
logPow		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, kinematic	215 mm ² /s		
Explosive properties	Not explosive		
Oxidizing Properties	Not applicable		
Possibility of hazardous reactions	None under normal processing		
<u>Other information</u>			
Freezing Point		No information available	

10. STABILITY AND REACTIVITY



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<u>Reactivity</u>	None under normal processing.
<u>Chemical stability</u>	Stable under recommended storage conditions.
<u>Possibility of hazardous reactions</u>	No dangerous reaction known under conditions of normal use.
<u>Conditions to avoid</u>	Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat and sparks. Take precautionary measures against static discharges.
<u>Incompatible materials</u>	Strong oxidizing agents.
<u>Hazardous Decomposition Products</u>	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide. Mercaptans. Carbon monoxide (CO). Carbon dioxide (CO ₂). Sulfur oxides. Phosphorous oxides. Zinc oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principle Routes of Exposure	Inhalation, Ingestion, Eye contact, Skin contact.
Symptoms	No information available.
Skin contact	Not classified based on available data. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.
Eye contact	Causes serious eye irritation.
Inhalation	Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Ingestion	Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

Acute toxicity - Product Information

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Oral	Not classified based on available data
Dermal	Not classified based on available data
Inhalation	Not classified based on available data



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Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0	LD50 > 5000 mg/kg bw (rat - OECD 420)	LD50 > 5000 mg/kg bw (rabbit - OECD 402)	LC50 (4h) > 5.53 mg/l (aerosol) (rat - OECD 403)
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3	LD50 2154 - 3100 mg/kg (rat)	LD50 3160 - 6965 mg/kg (rabbit)	

Skin corrosion/irritation Not classified based on available data.
Serious eye damage/eye irritation Irritating to eyes.
Sensitization Not classified based on available data.
Carcinogenicity Not classified based on available data.

Germ Cell Mutagenicity Not classified based on available data.
Reproductive toxicity Not classified based on available data.
Target Organ Effects (STOT) None known.
STOT - single exposure Not classified based on available data.
Aspiration hazard Not classified based on available data.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Acute aquatic toxicity - Product Information**

No information available

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates	Toxicity to microorganisms
Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0		LL50 (96h) > 100 mg/l (Oncorhynchus mykiss - OECD 203)	EL50 (48h) > 10000 mg/l (Daphnia magna - OECD 202)	
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3	EC50(72h) 21 mg/l (Scenedesmus quadricauda)	LC50(96h) 46 mg/l (Sheepshead Minnow) LC50(96h) 4.5 mg/l (Rainbow Trout)	EC50(48h) 23 mg/l (daphnia magna)	

Chronic aquatic toxicity - Product Information

No information available

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Distillates (petroleum),		NOEL (21d) 10 mg/l	NOEL (14/28d) > 1000 mg/l	



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solvent-dewaxed heavy paraffinic 64742-65-0		(Daphnia magna - OECD 211)	(Oncorhynchus mykiss - QSAR Petrotox)	
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3		NOEC(21d) 0.4 mg/l (Daphnia magna)	NOEC(96h) 1.8 mg/l (Rainbow Trout)	

Effects on terrestrial organisms No information available.**Persistence and degradability****General Information** No information available.**Bioaccumulative potential****Product Information** No information available.**logPow** No information available**Component Information**

Chemical Name	log Pow
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts 68649-42-3	0.56

Mobility

Soil Given its physical and chemical characteristics, the product has no soil mobility.
Air Loss by evaporation is limited
Water The product is insoluble and floats on water

Other adverse effects**General Information** No information available**13. DISPOSAL CONSIDERATIONS****Waste treatment****Waste Disposal Methods**

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

Empty containers should be taken to an approved waste handling site for recycling or disposal.



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14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>ICAO/IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>ADR/RID</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories	All the substances contained in this product are listed or exempted from listing in the following inventories: Australia (AICS) Canada (DSL/NDSL) China (IECSC) Europe (EINECS/ELINCS/NLP) Japan (ENCS) New Zealand (NZIoC) Philippines (PICCS) Korea (KECL) Taiwan (TCSI) U.S.A. (TSCA)
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U.S. 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 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).



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

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

To the best of our knowledge, this product does not contain any substances known to the State of California to cause cancer, developmental and/or reproductive harm.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois
Xylene 1330-20-7	X	X	X	X

16. OTHER INFORMATION

NFPA	Health Hazard 1	Flammability 1	Instability 0	Special hazards -
HMIS	Health Hazard 1	Flammability 1	Physical Hazard 0	Personal protection X

NFPA (National Fire Protection Association)

HMIS (Hazardous Material Information System)

Hazards are split into categories each with a 0 to 4 rating, 0 meaning no hazard and 4 meaning high hazard

Revision Date: 2019-05-07

Revision Note: *** Indicates updated section

Abbreviations, acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals



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LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

Legend

Section 8

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and Health

TLV - Threshold Limit Values

PEL - Permissible Exposure Limits

IDHL - Immediately Dangerous to Life or Health concentrations

TWA - Time Weight Average

STEL - Short Term Exposure Limits

S* - Skin notation

TSCA - Toxic Substance Control Act

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the Safety Data Sheet