



SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

SDS # : 34191

MULTIS COMPLEX HV 2

Date of the previous version: 2015-05-25

Revision Date: 2015-10-13

Version 1.01

1. IDENTIFICATION

Product identifier

Product name MULTIS COMPLEX HV 2

Other means of identification

Product Code(s) 34191

Number KZ1
Substance/mixture 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 Street, Suite 1800
Houston, TX 77002
Phone: +1 800 323 3198

Contact Point Technical/ HSEQ

E-mail Address USRMLIN-info@total.com

Emergency telephone number

Company Phone Number

+1 (908) 862-9300

Emergency telephone

CHEMTREC: +1 800 424 9300 (24h)

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation - Category 2A

Label elements

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**WARNING****Hazard Statements**

Causes serious eye irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection

Precautionary Statements - Response**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

Unknown Acute Toxicity

No information available

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

Chemical Name	CAS-No	Weight %
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts	68457-79-4	<2.5

** The exact percentage (concentration) of composition has been withheld as a trade secret****

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	Rinse thoroughly with plenty of water, also under the eyelids.
Skin contact	Remove contaminated clothing and shoes. Wash skin with soap and water. Wash contaminated clothing before reuse. High pressure jets may cause skin damage. Take victim immediately to hospital.
Inhalation	Move to fresh air.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

Skin contact	Not classified. 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	Severely irritating to eyes.
Inhalation	Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

Notes to physician Treat symptomatically.

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.
<u>Explosion Data</u>	
<u>Sensitivity to Mechanical Impact</u>	None.
<u>Sensitivity to Static Discharge</u>	None.
<u>Protective Equipment and Precautions for Firefighters</u>	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

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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. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Methods for cleaning up Dam up. Contain spillage, and then collect 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). Collect free product with suitable mechanical means. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

Prevention of fire and explosion Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.

Hygiene measures Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. 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

Technical measures/Storage conditions Keep away from food, drink and animal feedingstuffs. Keep in a bonded 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. Protect from frost, heat and sunlight. Protect from moisture.

Materials to Avoid Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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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. 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

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Eye/Face Protection

If splashes are likely to occur, wear: Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots.

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

None required under normal usage. 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.

Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. 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

Appearance

smooth

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Color	blue green
Physical State @20°C	solid
Odor	Characteristic
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		Not applicable	
Flash point	> 200 °C > 392 °F		
Evaporation rate		Not applicable	
Flammability Limits in Air		No information available	
Vapor Pressure		No information available	
Vapor density		No information available	
Relative density	0.9	@ 20 °C	
Density	~ 900 kg/m ³	@ 20 °C	
Water solubility		Insoluble	
Solubility in other solvents		No information available	
logPow		No information available	
Autoignition temperature	> 250 °C > 482 °F		ASTM E659 ASTM E659
Decomposition temperature ***	***	No information available	***
Viscosity, kinematic		No information available	
Explosive properties	Not explosive		
Oxidizing Properties	Not applicable		
Possibility of hazardous reactions	Not applicable		
<u>Other information</u>			
Penetration index	265 - 295 (1/10mm)	@ 25 °C	ASTM D 217
Freezing Point		No information available	
Drop point	> 260 °C		DIN ISO 2176

10. STABILITY AND REACTIVITYReactivityChemical stability Stable under recommended storage conditions.Possibility of hazardous reactions None under normal processing.Conditions to Avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.Incompatible Materials Strong oxidizing agents.Hazardous Decomposition Products None under normal use. Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

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11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Information on likely routes of exposure

Principle Routes of Exposure Inhalation, Ingestion, Eye contact, Skin contact.

Numerical measures of toxicity

ATEmix (oral)	185484 mg/kg
ATEmix (dermal)	292918 mg/kg
Inhalation	
ATEmix (inhalation-dust/mist)	472.7 mg/l
ATEmix (inhalation-vapor)	1863.2 mg/l

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4	LD50 3600 mg/kg (Rat - OECD 401)	LD50 > 20000 mg/kg (Rabbit - OECD 402)	

Information on toxicological effects

Symptoms	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Skin contact	Not classified. 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	Severely irritating to eyes.
Inhalation	Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

Sensitization Not classified as a sensitizer.
Carcinogenicity This product is not classified carcinogenic.

Mutagenicity This product is not classified as mutagenic.
Reproductive toxicity This product does not present any known or suspected reproductive hazards.
Aspiration Hazard Not classified.

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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
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4	EbL50 (72h) 21 mg/l (Scenedesmus subspicatus - OECD 201)	LC50 (96h) 4.5 mg/l (Cyprinodon variegatus - OECD 203)	EC50 (48h) 23 mg/l (Daphnia magna - OECD 202)	

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
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4		NOEC(21d) 0.8 mg/l Daphnia magna		

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, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4	0.69

Mobility

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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 Dispose of in accordance with local regulations.

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

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO/IATA Not regulated

IMDG/IMO Not regulated

ADR/RID Not regulated

ADN Not regulated

15. REGULATORY INFORMATION**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**

Yes***

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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).

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**

This product contains the following Proposition 65 chemicals:***

Chemical Name	Weight %	California Prop. 65
Quartz - 14808-60-7	<0.1	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois
Limestone 1317-65-3	X	X	X	
Quartz 14808-60-7	X	X	X	
Diphenylamine 122-39-4	X	X	X	
Lithium hydroxide monohydrate 1310-66-3		X		
Calcium dihydroxide 1305-62-0	X	X	X	

16. OTHER INFORMATION

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NFPA	Health Hazard 0	Flammability 0	Instability 0	Physical and chemical hazards -
HMIS	Health Hazard 0	Flammability 0	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: 2015-10-13

Revision Note: *** Indicates updated section

Abbreviations, acronyms

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

IDLH - 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

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