



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

SDS # : 34191

MULTIS COMPLEX HV 2

Date of the previous version: not applicable

Revision Date: 2013-04-30

Version 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	MULTIS COMPLEX HV 2
Number	KZ1
Pure substance/mixture	Mixture

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

Identified uses	Lubricating grease.
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1.3. Details of the supplier of the safety data sheet

Supplier	TOTAL UK LIMITED 40 Clarendon Road Watford. Hertfordshire. WD17 1TQ UNITED KINGDOM Tel: +44 (0)1923 427700 Fax: +44 (0)1923 427701
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For further information, please contact:

Contact Point	Specific Product Related Info : 01977 636200
E-mail Address	rm.gb-msds@total.co.uk

1.4. Emergency telephone number

+33 1 49 00 00 49 (24h/24, 7d/7)
Total UK - 01923 427700
NHS Direct: 0845 46 47 / Textphone: 0845 606 46 47

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture**REGULATION (EC) No 1272/2008***For the full text of the H-Statements mentioned in this Section, see Section 2.2.***DIRECTIVE 67/548/EEC or 1999/45/EC***For the full text of the R-phrases mentioned in this Section, see Section 16.*



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

The substance/mixture is non-dangerous in accordance with Directive(s) 67/548/EEC with amendments and/or 1999/45/EC with amendments

Symbol(s)
Not Classified

2.2. Label elements

Labelled according to Not classified/No labelling required

R-phrases(s)
None

S-phrases(s)
None
Safety data sheet available on request.

2.3. Other hazards

Physical-Chemical Properties Contaminated surfaces will be extremely slippery.

Environmental properties Should not be released into the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight %	Classification (Dir. 67/548)	GHS Classification
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts	270-608-0	01-2119493628-22	68457-79-4	< 1.5	Xi;R38-41 N;R51-53	Aquatic Chronic 2 (H411) Eye Dam. 1 (H318) Skin Irrit. 2 (H315)

Additional information Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

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 centre immediately.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact	Not classified.
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.
Inhalation	Not classified. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

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

5.1. Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO ₂). ABC powder. Foam. Water spray or fog.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Special hazard	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.
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5.3. Precautions for fire-fighters

Special protective equipment for fire-fighters	Wear self-contained breathing apparatus and protective suit.
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SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

Other information Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1. 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.

6.2. 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.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up Dam up. Contain spillage, and then collect with non-combustable absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Personal protective equipment See Section 8 for more detail.

Waste treatment See section 13.

7. HANDLING AND STORAGE

7.1. 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 vapours or spray mist. Avoid contact with skin, eyes and clothing.

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.

7.2. Conditions for safe storage, including any incompatibilities

SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

Technical measures/Storage conditions

Keep away from food, drink and animal feedingstuffs. Keep in a banded area. Keep container tightly closed. Preferably keep in the original container. Otherwise, reproduce all the statutory information from the labels onto 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 oxidising agents.

7.3. Specific use(s)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parametres

Exposure limits

oil mist : 10mg/m³, for 15 minutes
oil mist : 5mg/m³, for 8 hours

Legend

See section 16

DNEL Worker (Industrial/Professional)

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4			11.87 mg/kg bw/day Dermal 8.13 mg/m ³ Inhalation	

DNEL Consumer

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4			5.93 mg/kg bw/day Dermal 2.06 mg/m ³ Inhalation 0.24 mg/kg bw/day Oral	

Predicted No Effect Concentration (PNEC)

Chemical Name	Water	Sediment	Soil	Air	STP	Oral
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts 68457-79-4	0.000004 mg/l fw 0.0000046 mg/l mw 0.000046 mg/l or				100 mg/l	10.67 mg/kg food

8.2. Exposure controls



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

Occupational 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.
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.
Respiratory protection	None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 14387). The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.
Eye 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. Long sleeved clothing.
Hand protection	Hydrocarbon-proof gloves: Nitrile rubber, Fluorinated 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. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.

Environmental exposure controls

General Information The product should not be allowed to enter drains, water courses or the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance		smooth	
Colour		blue green	
Physical state @20°C		solid	
Odour		characteristic	
Property	Values	Remarks	Method
pH		not applicable	
Boiling point/boiling range		not applicable	
Flash point	> 200 °C > 392 °F		
Evaporation rate		not applicable	
Flammability Limits in Air		No information available	



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

Vapour pressure		No information available	
Vapour density		No information available	
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
Viscosity, kinematic		No information available	
Explosive properties	Not explosive		
Oxidising Properties	not applicable		
Possibility of hazardous reactions	not applicable		

9.2. Other information

Penetration index	265 - 295 (1/10mm)	@ 25 °C	ASTM D 217
Drop point	> 260 °C		DIN ISO 2176

10. STABILITY AND REACTIVITY10.1. Reactivity10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions None under normal processing.

10.4. Conditions to Avoid

Conditions to Avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous Decomposition Products

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.

11. TOXICOLOGICAL INFORMATION11.1. Information on toxicological effects



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

Acute toxicity Local effects Product Information

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	. Not classified.
Inhalation	. Not classified. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Ingestion	. Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Acute toxicity - Component Information

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

Sensitisation

Sensitisation Not classified as a sensitizer.

Specific effects

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.
Repeated Dose Toxicity

Subchronic Toxicity No information available.

Target Organ Effects (STOT)

Target Organ Effects (STOT) No information available.

Other information

Other adverse effects Characteristic skin lesions (oil blisters) may develop following prolonged and repeated exposures (contact with contaminated clothing).

12. ECOLOGICAL INFORMATION**12.1. Toxicity**

No information available.

Acute aquatic toxicity - Product Information



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

No information available.

Acute 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	EbL50 (72h) 21 mg/l (Scenedesmus subspicatus - OECD 201)	EC50 (48h) 23 mg/l (Daphnia magna - OECD 202)	LC50 (96h) 4.5 mg/l (Cyprinodon variegatus - OECD 203)	

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.

12.2. Persistence and Degradability**General Information**

No data is available on the product itself.

12.3. 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

12.4. Mobility in soil**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.



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

General Information No information available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products Should not be released into the environment. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

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

EWC Waste Disposal No EWC Waste Disposal No: 12 01 12. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

ADR/RID not regulated

IMDG/IMO not regulated

ICAO/IATA not regulated

ADN not regulated

15. REGULATORY INFORMATION

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

European Union

International Inventories



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

EINECS/ELINCS	-
TSCA	-
DSL	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-
NZIoC	-

Legend**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals

Further information

15.2. Chemical Safety Assessment**Chemical Safety Assessment** No information available15.3. National regulatory information**The United Kingdom**

- Avoid exceeding occupational exposure limits (see section 8).

Ireland

- Avoid exceeding occupational exposure limits (see section 8).

16. OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3**

R41 - Risk of serious damage to eyes

R38 - Irritating to skin

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation

H318 - Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects



SDS # : 34191

MULTIS COMPLEX HV 2

Revision Date: 2013-04-30

Version 3

Abbreviations, acronyms

Legend Section 8

+	Sensitiser	*	Skin designation
**	Hazard Designation	C:	Carcinogen
M:	Mutagen	R:	Toxic to reproduction

Revision Date: 2013-04-30

Revision Note *** Indicates updated section.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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 Safety Data Sheet