



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 31157

MULTIS EP 2

Date of the previous version: 2016-11-29

Revision Date: 2018-02-01

Version 14

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	MULTIS EP 2
Number	626
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	<p style="color: red;">A - TOTAL UK LIMITED 183 Eversholt St, Kings Cross London, NW1 1BU UNITED KINGDOM Tel: +44 (0)20 7339 8000 Fax: +44 (0)20 7339 8033</p> <p style="color: red;">B - TOTAL LUBRIFIANTS 562 Avenue du Parc de L'île 92029 Nanterre Cedex FRANCE Tél: +33 (0)1 41 35 40 00 Fax: +33 (0)1 41 35 84 71***</p>
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For further information, please contact:

Contact Point	<p style="color: red;">A - HSE</p> <p style="color: red;">B - HSE***</p>
E-mail Address	<p style="color: red;">A - rm.gb-msds@total.co.uk</p> <p style="color: red;">B - rm.msds-lubs@total.com***</p>

1.4. Emergency telephone number

Emergency telephone: +44 1235 239670

UK: National Poisons Information Service (NPIS): NHS on 111 or a doctor

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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REGULATION (EC) No 1272/2008 ****For the full text of the H-Statements mentioned in this Section, see Section 2.2. ******Classification*****

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008***

2.2. Label elements**Labelled according to** REGULATION (EC) No 1272/2008*****Signal word**

None***

Hazard Statements ***

None***

Precautionary statements

None***

Supplemental Hazard Statements

EUH210 - Safety data sheet available on request***

2.3. Other hazards**Physical-Chemical Properties** Contaminated surfaces will be extremely slippery.***

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture*****Chemical nature**

The product is made from refined mineral base oils and synthetic oils.***

Hazardous components

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight %	Classification (Reg. 1272/2008)
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts***	270-608-0***	01-2119493628-22	68457-79-4	1-<2.5	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 H-Statements mentioned in this Section, see Section 16.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

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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 centre 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.***

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

Eye contact	Not classified based on available data. The supplier of some components contained within this formulation has indicated that the classification as irritant is not required.***
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.***
Inhalation	Not classified based on available data.***
Ingestion	Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.***

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.***

Section 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. Combustion
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products include sulphur oxides (SO₂ and SO₃) and Hydrogen sulphide H₂S, Phosphorous oxides, Mercaptans, Zinc oxides.***

5.3. Precautions for fire-fighters

Special protective equipment for fire-fighters Wear self-contained breathing apparatus and protective suit.***

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

Section 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. Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained.***

6.3. 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.***

6.4. Reference to other sections

Personal protective equipment See Section 8 for more detail.

Waste treatment See section 13.

Section 7: HANDLING AND STORAGE

7.1. 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,

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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.***

7.2. Conditions for safe storage, including any incompatibilities

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. Store at room temperature. Protect from moisture.***

Materials to avoid

Strong oxidising agents.***

7.3. Specific use(s)

Specific use(s)

Please refer to Technical Data Sheet for further information.***

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION
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8.1. Control parametres

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)

Legend

See section 16

Derived No Effect Level (DNEL) ***

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



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Phosphorodithioic acid, mixed O,O-bis(iso-Bu and penty) esters, zinc salts*** 68457-79-4	4 µg/l fw 4.6 µg/l mw 45 µg/l or				100 mg/l	10.67 mg/kg food
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8.2. Exposure controls**Occupational 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.***

Personal protective equipment**General Information**

Protective engineering solutions should be implemented and in use before personal protective equipment is considered. The personal protective equipment (PPE) recommendations apply to the product AS DELIVERED. In case of mixtures or formulations, it is suggested that you contact the relevant PPE suppliers.***

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). Type A/P1. 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.***

Eye protection

If splashes are likely to occur, wear: Safety glasses with side-shields. EN 166.***

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing. Type 4/6.***

Hand protection

Hydrocarbon-proof gloves. Fluorinated rubber. Nitrile rubber. In case of prolonged contact with the product, it is recommended to wear gloves complying with EN 420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency. 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.***

Environmental exposure controls**General Information**

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

Section 9: PHYSICAL AND CHEMICAL PROPERTIES9.1. Information on basic physical and chemical properties

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Colour brown***
Physical state @20°C solid***
Odour characteristic***
Odour 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 ***		Not applicable***	
Evaporation rate		No information available***	
Flammability Limits in Air		***	
Upper ***	***	No information available***	***
Lower ***	***	No information available***	***
Vapour pressure		No information available***	
Vapour density		No information available***	
Relative density	0.870***	@ 20 °C***	ISO 12185***
Density	870*** kg/m ³ ***	@ 20 °C***	ISO 12185***
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 ***	***	Not applicable***	***
Explosive properties		Not explosive***	
Oxidising properties		Not applicable***	
Possibility of hazardous reactions		None under normal processing***	

9.2. Other information

Freezing point No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

General Information None under normal processing.***

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions No dangerous reaction known under conditions of normal use.***

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10.4. Conditions to avoid

Conditions to avoid Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat and sparks.***

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.***

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. Phosphorous oxides, Mercaptans, Combustion products include sulphur oxides (SO₂ and SO₃) and Hydrogen sulphide H₂S, Zinc oxides.***

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effectsAcute toxicity Local effects Product Information

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 . Not classified based on available data. The supplier of some components contained within this formulation has indicated that the classification as irritant is not required.***

Inhalation . Not classified based on available data.***

Ingestion . Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.***

ATEmix (oral) > 5,000.00*** mg/kg***

ATEmix (dermal) > 5,000.00*** mg/kg***

ATEmix (inhalation-gas) > 20,000.00*** ppm***

ATEmix (inhalation-dust/mist) 71.10*** mg/l***

ATEmix (inhalation-vapour) > 20.00*** mg/l***

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 based on available data.***

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Specific effects

Carcinogenicity	Not classified based on available data.***
Mutagenicity	***
Germ cell mutagenicity	Not classified based on available data.***
Reproductive toxicity	Not classified based on available data.***

Repeated dose toxicity**Target Organ Effects (STOT)**

Specific target organ systemic toxicity (single exposure)	Not classified based on available data.***
Specific target organ toxicity - repeated exposure	Not classified based on available data.***
Aspiration toxicity	Not classified based on available data.***

Other information

Other adverse effects	Characteristic skin lesions (oil blisters) may develop following prolonged and repeated exposures (contact with contaminated clothing).***
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Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Not classified based on available data.***

Acute aquatic toxicity - Product Information***

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	Toxicity to fish	Toxicity to microorganisms

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

No information available.***

12.2. Persistence and Degradability**General Information**

No information available.

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.***

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.***

Section 13: DISPOSAL CONSIDERATIONS13.1. Waste treatment methods**Waste from residues / unused products**

Should not be released into the environment. Do not empty into drains. Dispose of in accordance with the European Directives on waste and hazardous waste.***

Contaminated packaging

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

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EWC Waste Disposal No

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. The following Waste Codes are only suggestions: 12 01 12.***

Other information

Refer to section 8 for safety and protective measures for disposal personnel.***

Section 14: TRANSPORT INFORMATION

ADR/RID not regulated

IMDG/IMO not regulated

ICAO/IATA not regulated

ADN not regulated

Section 15: REGULATORY INFORMATION

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

European Union

Further information

No information available***

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available***

15.3. National regulatory information

The United Kingdom

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

Ireland

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

Section 16: OTHER INFORMATION

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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***

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

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

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

dw = dry weight

fw = fresh water

mw = marine water

or = occasional release

Legend Section 8

TWA: Time Weight Average

STEL: Short Time Exposure Limit

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

Revision Date: 2018-02-01

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

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