



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

SDS # : 30935

MULTIS COMPLEX EP 2

Date of the previous version: 2018-09-11

Revision Date: 2018-09-17

Version 14

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

1.1. Product identifier

Product name	MULTIS COMPLEX EP 2
Number	B44
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	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
	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

For further information, please contact:

Contact Point	A - HSE
	B - HSE
E-mail Address	A - rm.gb-msds@total.co.uk
	B - rm.msds-lubs@total.com

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

Version EUUK



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

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.

Classification

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008
Serious eye damage/eye irritation - Category 2 - (H319)

2.2. Label elements

Labelled according to

REGULATION (EC) No 1272/2008



Signal word

WARNING

Hazard Statements

H319 - Causes serious eye irritation

Precautionary statements

P280 - Wear eye protection/ face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

Physical-Chemical Properties

Contaminated surfaces will be extremely slippery.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Chemical nature

Mineral oil of petroleum origin.

Hazardous components

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight %	Classification (Reg. 1272/2008)
Paraffin oils (petroleum), catalytic dewaxed heavy	265-174-4	01-2119487080-42	64742-70-7	10-<20	Asp. Tox. 1 (H304)
Dilithium azelate	254-184-4	01-2120119814-57	38900-29-7	1-<3	Acute Tox. 4 (H302)

SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	270-478-5	01-2119948548-22	68442-22-8	1-<2.5	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)
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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

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	Causes serious eye irritation.
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



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO₂). 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. Phosphorous oxides, Zinc oxides, Combustion products include sulphur oxides (SO₂ and SO₃) and Hydrogen sulphide H₂S, Mercaptans, Silicon dioxide.

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



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

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, 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 bunded 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.
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Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parametres

Exposure limits	Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m ³ , NIOSH (REL) TWA 5 mg/m ³ , STEL 10 mg/m ³ , ACGIH (TLV) TWA 5 mg/m ³ (highly refined);
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Legend	See section 16
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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
Dilithium azelate 38900-29-7				0.172 mg/cm ² (dermal)
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts			8.05 mg/m ³ (inhalation) 11.4 mg/kg bw/day (dermal)	

SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

68442-22-8				
DNEL Consumer				
Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Dilithium azelate 38900-29-7				0.023 mg/cm ² (dermal)
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts 68442-22-8			1.98 mg/m ³ (inhalation) 5.71 mg/kg bw/day (dermal) 0.240 mg/kg bw/day (oral)	

Predicted No Effect Concentration (PNEC)

Chemical Name	Water	Sediment	Soil	Air	STP	Oral
Paraffin oils (petroleum), catalytic dewaxed heavy 64742-70-7						9.33 mg/kg food
Dilithium azelate 38900-29-7	0.023 mg/l (fw) 0.0023 mg/l (mw) 0.23 mg/l (ir)					
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts 68442-22-8	0.004 mg/l (fw) 0.0046 mg/l (mw)	0.0451 mg/kg sediment dw (fw) 0.00451 mg/kg sediment dw (mw)	0.00676 mg/kg soil dw		100 mg/l	

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



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

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 PROPERTIES

9.1. Information on basic physical and chemical properties

Colour		red	
Physical state @20°C		solid	
Odour		characteristic	
Odour Threshold		No information available	
Property	Values	Remarks	Method
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		No information available	
Upper		No information available	
Lower		No information available	
Vapour pressure		No information available	
Vapour density		No information available	
Relative density	~0.900	@ 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		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		



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

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.

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, Zinc oxides, Combustion products include sulphur oxides (SO₂ and SO₃) and Hydrogen sulphide H₂S, Mercaptans, Silicon dioxide.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute 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 . Causes serious eye irritation.

Inhalation . Not classified based on available data.

Ingestion . Not classified based on available data. Ingestion may cause gastrointestinal irritation,



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

nausea, vomiting and diarrhoea.

ATEmix (oral) 11,685.00 mg/kg**ATEmix (inhalation-dust/mist)** 26.20 mg/l**ATEmix (inhalation-vapour)** 103.30 mg/l**Acute toxicity - Component Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Paraffin oils (petroleum), catalytic dewaxed heavy	LD50 >5000 mg/kg (rat)	LD50 >5000 mg/kg (rabbit)	
Dilithium azelate	LD50 >300 mg/kg bw (rat)	LD50 >2000 mg/kg bw (rat)	
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	LD50 >2000 mg/kg (rat)	LD50 >5000 mg/kg (guideline OCDE 402)	

Sensitisation**Sensitisation** Not classified based on available data.**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).

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Not classified based on available data.

Acute aquatic toxicity - Product Information

No information available.



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Paraffin oils (petroleum), catalytic dewaxed heavy 64742-70-7	NOEL(72h) >100 mg/l (Pseudokirchneriella subcapitata)	EL50(48h) >10000 mg/l (Daphnia magna)	LC50(96h) >100 mg/l (Pimephales promelas)	
Dilithium azelate 38900-29-7	LC50 >100 mg/l	LC50 >100 mg/l	LC50 >100 mg/l	
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts 68442-22-8	EC50(72h) 21 mg/l (Guideline OCDE 201) (Scenedesmus subspicatus)	EC50(48h) 23 mg/l (guideline OCDE 202) (Daphnia Magna)	LC50(96h) 4.5 mg/l (guideline OCDE 203) (Oncorhynchus mykiss)	

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(2-ethylhexyl and iso-Bu) esters, zinc salts 68442-22-8		NOEC(21days) 0.4 mg/l (Daphnia Magna)		

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(2-ethylhexyl and iso-Bu) esters, zinc salts - 68442-22-8	1.67

12.4. Mobility in soil**Soil**

Given its physical and chemical characteristics, the product has no soil mobility.



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

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 CONSIDERATIONS

13.1. 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.
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

<u>ADR/RID</u>	not regulated
<u>IMDG/IMO</u>	not regulated
<u>ICAO/IATA</u>	not regulated
<u>ADN</u>	not regulated

Section 15: REGULATORY INFORMATION

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

European Union

REACH

All substances contained in this mixture have been pre-registered, registered or are exempt from registration in accordance with



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

Regulation (CE) No. 1907/2006 (REACH)

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

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

H302 - Harmful if swallowed
 H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 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



SDS # : 30935

MULTIS COMPLEX EP 2

Revision Date: 2018-09-17

Version 14

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: 2018-09-17

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

LUBGES-AI-32278

1. Exposure scenario

Formulation additives, lubricants and greases, Industrial.

Use Descriptor

Sector of use

SU10 - Formulation

SU3 - Industrial Manufacturing (all)

Process category

PROC1 - Use in closed process, no likelihood of exposure

PROC2 - Use in closed, continuous process with occasional controlled exposure

PROC3 - Use in closed batch process (synthesis or formulation)

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC15 - Use as laboratory reagent

Environmental release category

ERC2 - Formulation of preparations

Specific Environmental Release Category

ATIEL-ATC SpERC 2.Ai-I.v1.

Processes, tasks, activities covered

Industrial formulation of lubricant additives, lubricants and greases. Includes material transfers, mixing, large and small scale packing, sampling, maintenance.

2. Operational conditions and risk management measures

2.1. Control of environmental exposure

No exposure scenario required

2.2. Control of exposure - Workers or Consumers

Product characteristics

Physical state

Liquid, vapour pressure < 0.5 kPa at STP

Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

Amounts used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

Human factors not influenced by risk management

not applicable

Other operational conditions affecting exposure

Covers percentage substance in the product up to 100 % (unless stated differently).

2.2a. Control of worker exposure	
Contributing Scenarios	Operational conditions and risk management measures
General measures applicable to all activities	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures. Use in contained systems elevated temperature - PROC 2	No other specific measures identified.
Mixing operations (closed systems). Batch processes at elevated temperatures - PROC 3	Provide extract ventilation to points where emissions occur.
Mixing operations (open systems). Batch processes at elevated temperatures - PROC 4; 5	Provide extract ventilation to points where emissions occur. Avoid carrying out activities involving exposure for more than 4 hours.
Mixing operations (open systems) - PROC 4; 5	Provide extract ventilation to points where emissions occur.
Process sampling - PROC 4; 8b	Avoid carrying out activities involving exposure for more than 1 hour. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Bulk transfers; dedicated facility - PROC 8b	Avoid carrying out operation for more than 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Drum/batch transfers; dedicated facility - PROC 8b	Provide extract ventilation to points where emissions occur.
Drum/batch transfers; non-dedicated facility - PROC 8a	Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Equipment cleaning and maintenance - PROC 8a; 8b	Drain down and flush system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Clear spills immediately.
Drum and small package filling - PROC 9	Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Laboratory activities - PROC 15	Avoid carrying out activities involving exposure for more than 4 hours.
Storage - PROC 1; 2	Store substance within a closed system.

2.2b. Control of consumer exposure	
Product Category(ies)	Operational conditions and risk management measures

Remarks
Not applicable.

3. Exposure estimation and references

Health

The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product

Environment

Used ECETOC TRA model.

4. Guidance for Downstream User (DU) to check compliance with the Exposure scenario

Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

General

For further information see www.atiel.org/reach/introduction

LUBGES-BI-32278

1. Exposure scenario

General use of lubricants and greases in vehicles or machinery. Industrial.

Use Descriptor

Sector of use

SU3 - Industrial Manufacturing (all)

Process category

PROC1 - Use in closed process, no likelihood of exposure

PROC2 - Use in closed, continuous process with occasional controlled exposure

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Environmental release category

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

ERC7 - Industrial use of substances in closed systems

Specific Environmental Release Category

ATIEL-ATC SpERC 4.Bi.v1.

Processes, tasks, activities covered

Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

2. Operational conditions and risk management measures

2.1. Control of environmental exposure

No exposure scenario required

2.2. Control of exposure - Workers or Consumers

Product characteristics

Physical state

liquid

Vapour pressure

<0.5 kPa

Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting exposure

Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.

2.2a. Control of worker exposure	
Contributing Scenarios	Operational conditions and risk management measures
General measures applicable to all activities	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems) - PROC 1	No other specific measures identified.
Initial factory fill of equipment Use in contained systems - PROC 2; 9	No other specific measures identified.
Initial factory fill of equipment (open systems) - PROC 8b	Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 4 hours.
Operation of equipment containing engine oils and similar Use in contained systems - PROC 1	No other specific measures identified.
Equipment cleaning and maintenance - PROC 8b	Drain down system prior to equipment break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
Equipment cleaning and maintenance Operation is carried out at elevated temperature (> 20°C above ambient temperature) - PROC 8b	Drain down system prior to equipment break-in or maintenance. Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
Storage - PROC 1; 2	Store substance within a closed system.

2.2b. Control of consumer exposure	
Product Category(ies)	Operational conditions and risk management measures
Remarks	
Not applicable.	

3. Exposure estimation and references

Health

The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product

Environment

Used ECETOC TRA model.

4. Guidance for Downstream User (DU) to check compliance with the Exposure scenario

Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs >

1), additional RMMs or a site-specific chemical safety assessment is required.

General

For further information see www.atiel.org/reach/introduction

LUBGES-BP-32278

1. Exposure scenario

General use of lubricants and greases in vehicles or machinery. Professional.

Use Descriptor

Sector of use

SU22 – Professional uses

Process category

PROC1 - Use in closed process, no likelihood of exposure

PROC2 - Use in closed, continuous process with occasional controlled exposure

PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC20 - Heat and pressure transfer fluids in dispersive, professional use but closed systems

Environmental release category

ERC9a - Wide dispersive indoor use of substances in closed systems

ERC9b - Wide dispersive outdoor use of substances in closed systems

Specific Environmental Release Category

ATIEL-ATC SpERC 9.Bp.v1.

Processes, tasks, activities covered

Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

2. Operational conditions and risk management measures

2.1. Control of environmental exposure

No exposure scenario required

2.2. Control of exposure - Workers or Consumers

Product characteristics

Physical state

liquid

Vapour pressure

<0.5 kPa

Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting exposure

Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.

2.2a. Control of worker exposure	
Contributing Scenarios	Operational conditions and risk management measures
General measures applicable to all activities	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Operation of equipment containing engine oils and similar; Use in contained systems - PROC 1	No other specific measures identified.
Material transfers; non-dedicated facility - PROC 8a	Avoid carrying out activities involving exposure for more than 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Equipment cleaning and maintenance; dedicated facility - PROC 8b; 20	Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
Storage - PROC 1; 2	Store substance within a closed system.

2.2b. Control of consumer exposure	
Product Category(ies)	Operational conditions and risk management measures
Remarks	
Not applicable.	

3. Exposure estimation and references

Health

The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product

Environment

Used ECETOC TRA model.

4. Guidance for Downstream User (DU) to check compliance with the Exposure scenario

Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

General

For further information see www.atiel.org/reach/introduction

LUBGES-CI-32278

1. Exposure scenario

Use of lubricants and greases in open systems. Industrial.

Use Descriptor

Sector of use

SU3 - Industrial Manufacturing (all)

Process category

PROC1 - Use in closed process, no likelihood of exposure

PROC2 - Use in closed, continuous process with occasional controlled exposure

PROC7 - Industrial spraying

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 - Roller application or brushing

PROC13 - Treatment of articles by dipping and pouring

Environmental release category

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Specific Environmental Release Category

ATIEL-ATC SpERC 4.Ci.v1.

Processes, tasks, activities covered

Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities.

2. Operational conditions and risk management measures

2.1. Control of environmental exposure

No exposure scenario required

2.2. Control of exposure - Workers or Consumers

Product characteristics

Physical state

liquid

Vapour pressure

<0.5 kPa

Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting exposure

Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.

2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures
General measures applicable to all activities	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Material transfers - PROC 8b	Avoid carrying out activities involving exposure for more than 1 hour.
Material transfers; Automated process with (semi) closed systems - PROC 8b; 9	Ensure material transfers are under containment or extract ventilation.
Roller, spreader, flow application - PROC 10	Provide extract ventilation to points where emissions occur.
Spraying - PROC 7	Carry out in a vented booth or extracted enclosure. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Treatment of articles by dipping and pouring - PROC 13	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Equipment cleaning and maintenance - PROC 8b	Drain down system prior to equipment break-in or maintenance. Provide a good standard of general or controlled ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
Storage - PROC 1; 2	Store substance within a closed system.

2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
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Remarks

Not applicable.

3. Exposure estimation and references

Health

The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product

Environment

Used ECETOC TRA model.

4. Guidance for Downstream User (DU) to check compliance with the Exposure scenario

Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Further details on scaling and control technologies are provided in SpERC factsheet

(<http://cefic.org/en/reach-for-industries-libraries.html>).

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is

required.

General

For further information see www.atiel.org/reach/introduction

LUBGES-CP-32278

1. Exposure scenario

Use of lubricants and greases in open systems. Professional.

Use Descriptor

Sector of use

SU22 – Professional uses

Process category

PROC1 - Use in closed process, no likelihood of exposure

PROC2 - Use in closed, continuous process with occasional controlled exposure

PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC10 - Roller application or brushing

PROC11 - Non industrial spraying

PROC13 - Treatment of articles by dipping and pouring

Environmental release category

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8d - Wide dispersive outdoor use of processing aids in open systems

Specific Environmental Release Category

ATIEL-ATC SpERC 8.Cp.v1.

Processes, tasks, activities covered

Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mould releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities.

2. Operational conditions and risk management measures

2.1. Control of environmental exposure

No exposure scenario required

2.2. Control of exposure - Workers or Consumers

Product characteristics

Physical state

Liquid, vapour pressure < 0.5 kPa at STP

Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

Other operational conditions affecting exposure

Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.

2.2a. Control of worker exposure	
Contributing Scenarios	Operational conditions and risk management measures
General measures applicable to all activities	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Material transfers; Manual - PROC 8a	Avoid carrying out activities involving exposure for more than 1 hour.
Roller, spreader, flow application - PROC 10	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Spraying - PROC 11	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 1 hour. Wear a respirator conforming to EN140 with Type A/P2 filter or better. Wear suitable coveralls to prevent exposure to the skin. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Treatment of articles by dipping and pouring - PROC 13	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Equipment cleaning and maintenance - PROC 8a	Drain down system prior to equipment break-in or maintenance. Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 4 hours. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
Storage - PROC 1; 2	Store substance within a closed system.

2.2b. Control of consumer exposure	
Product Category(ies)	Operational conditions and risk management measures

Remarks

Not applicable.

3. Exposure estimation and references

Health

The risk Management Measures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product

Environment

Used ECETOC TRA model.

4. Guidance for Downstream User (DU) to check compliance with the Exposure scenario

Health

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

General

For further information see www.atiel.org/reach/introduction