



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 30983

AERO DM 15W-50

Date of the previous version: 2017-11-01

Revision Date: 2019-03-22

Version 5.01

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

1.1. Product identifier

Product name	AERO DM 15W-50
Number	116
Substance/mixture	Mixture

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

Identified uses	Lubrication for aircraft piston engines.
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1.3. Details of the supplier of the safety data sheet

Supplier	<p>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>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	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
Ireland : National poisons information Centre (NPIC) : +353 1 8379964 or +353 1 809 2566. The service is available from 8.00am until 10.00pm at night, seven (7) days a week, 365 days a year.***

Section 2: HAZARDS IDENTIFICATION

Version EUUK



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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
 Chronic aquatic toxicity - Category 3 - (H412)

2.2. Label elements

Labelled according to REGULATION (EC) No 1272/2008

Signal word

None

Hazard Statements

H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards**Physical-Chemical Properties** Contaminated surfaces will be extremely slippery.**Environmental properties** The product may form an oil film on the water surface that may stop the oxygen exchange.

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)
Distillates (petroleum), hydrotreated heavy paraffinic	265-157-1***	01-2119484627-25	64742-54-7	1-<3	Asp. Tox. 1 (H304)
tris(methylphenyl) phosphate	215-548-8***	01-2119531335-46	1330-78-5	1-<2.5	Repr. 2 (H361fd) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Acute M factor = 1 Chronic M factor = 1

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.**



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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.
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.
Skin contact	Not classified based on available data.
Inhalation	Not classified based on available data. Inhalation of vapours in high concentration may cause irritation of respiratory system.
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.
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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
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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, 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 Dike to collect large liquid spills. 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. Do not breathe vapours 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



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contact with the product. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing is recommended. 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

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
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7				5.4 mg/m ³ /8h (aerosol - inhalation)
tris(methylphenyl) phosphate 1330-78-5	1.11 mg/m ³ Inhalation 74 mg/kg/bw Dermal	16 mg/cm ² Dermal	0.47 mg/m ³ Inhalation 3.33 mg/kg/bw Dermal	

DNEL Consumer

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7				1.2 mg/m ³ /24h (aerosol - inhalation)
tris(methylphenyl)	37 mg/kg/bw Dermal	8 mg/cm ² Dermal	1.67 mg/kg/bw Dermal	



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phosphate 1330-78-5	0.28 mg/m ³ Inhalation 157.5 mg/kg/bw Oral		0.06 mg/m ³ Inhalation 0.03 mg/cm ² Oral	
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Predicted No Effect Concentration (PNEC)

Chemical Name	Water	Sediment	Soil	Air	STP	Oral
tris(methylphenyl) phosphate 1330-78-5	0.000146 mg/l fw 0.0000146 mg/l mw 0.00146 mg/l or	0.0404 mg/kg dw fw 0.00404 mg/kg dw mw	0.00000317 mg/kg dw		100 mg/l	0.67 mg/kg

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 PROPERTIES



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9.1. Information on basic physical and chemical properties

Appearance		Clear	
Colour		light yellow	
Physical state @20°C		liquid	
Odour		characteristic	
Odour Threshold		No information available	
Property	Values	Remarks	Method
pH		No information available	
Melting point/range		No information available	
Boiling point/boiling range		No information available	
Flash point	> 130 °C > 266 °F		Cleveland Open Cup (COC) Cleveland Open Cup (COC)
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	0.830 - 0.850	@ 20 °C	ISO 12185
Density	830 - 850 kg/m ³	@ 20 °C	ISO 12185
Water solubility		Forms an emulsion	
Solubility in other solvents		No information available	
logPow		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, kinematic	134.50 mm ² /s	@ 40 °C	ISO 3104
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
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Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

General Information	None under normal processing.
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10.2. Chemical stability

Stability	Stable under recommended storage conditions.
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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, Silicon dioxide.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effectsAcute toxicity Local effects Product Information

Skin contact	. Not classified based on available data.
Eye contact	. Not classified based on available data.
Inhalation	. Not classified based on available data. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Ingestion	. Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
ATEmix (oral)	87,841.00 mg/kg
ATEmix (dermal)	> 5,000.00 mg/kg
ATEmix (inhalation-gas)	> 20,000.00 ppm
ATEmix (inhalation-dust/mist)	105.60 mg/l
ATEmix (inhalation-vapour)	1,050.00 mg/l

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 > 5000 mg/kg bw (rat - OECD 420)	LD50 > 5000 mg/kg bw (rabbit - OECD 402)	LC50 (4h) > 5 mg/l (aerosol) (rat - OECD 403)
tris(methylphenyl) phosphate	DL50 3700 mg/kg (Rat)	LD50 10000 mg/kg (Rabbit)	LD50 11.1 mg/l

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



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Specific effects

Carcinogenicity Not classified based on available data.
Germ cell mutagenicity Not classified based on available data.

Reproductive toxicity Not classified based on available data. Contains a known or suspected reproductive toxin.

Chemical Name	European Union
tris(methylphenyl) phosphate 1330-78-5	Repr. 2 (H361fd)

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**

Harmful to aquatic life with long lasting effects.

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
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	EL50 (48h) > 100 mg/l (Pseudokirchnerella subcapitata - OECD 201)	EL50 (48h) > 10000 mg/l (Daphnia magna - OECD 202)	LL50 (96h) > 100 mg/l (Oncorhynchus mykiss - OECD 203)	
tris(methylphenyl) phosphate 1330-78-5	EC50 (72h) 0.4 mg/l Desmodesmus subspicatus	LC50 (48h) 0.14 mg/l Daphnia magna	LC50 (96h) 0.6 mg/l	

Chronic aquatic toxicity - Product Information

No information available.

Chronic aquatic toxicity - Component Information



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Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7		NOEL (21d) 10 mg/l (Daphnia magna - QSAR Petrotox)	NOEL (14/28d) > 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox)	
tris(methylphenyl) phosphate 1330-78-5			NOEC (28d) 0.01 mg/l Oncorhynchus mykiss	

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
Distillates (petroleum), hydrotreated heavy paraffinic - 64742-54-7	-
tris(methylphenyl) phosphate - 1330-78-5	5.93

12.4. Mobility in soil**Soil**

Given its physical and chemical characteristics, the product generally shows low 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**

Should not be released into the environment. Do not empty into drains. Dispose of in



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products	accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Where possible recycling is preferred to disposal or incineration.
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: 13 02 05.
Other information	Refer to section 8 for safety and protective measures for disposal personnel.

Section 14: TRANSPORT INFORMATION

ADR/RID not regulatedIMDG/IMO not regulatedICAO/IATA not regulatedADN

UNID No	ID9006
Hazard Class	9
Environmental hazard	Yes
Description	ID9006, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9 (tris(methylphenyl) phosphate), Environmentally hazardous
Equipment Requirements	PP

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

Further information

No information available

15.2. Chemical Safety Assessment



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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).

Section 16: OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3**

H304 - May be fatal if swallowed and enters airways

H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child

H400 - Very toxic to aquatic life

H410 - Very 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



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M:	Mutagen	R:	Toxic to reproduction
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Revision Date: 2019-03-22**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-38372

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

Amounts used

Production volume in EU (tons/year) : 1.00E+04

Fraction of EU tonnage used in region: 0.1

Fraction of Regional tonnage used locally: 0.1

Frequency and duration of use

Emission Days (days/year): 300

Environment factors not influenced by risk management

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure

Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs): 5.0E-05

Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 2.00E-11

Release fraction to soil from process (after typical onsite RMMs): 0

Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Prevent discharge of undissolved substance to or recover from onsite wastewater

User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system

Treat air emission to provide a typical removal efficiency of (%): 70

Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Estimated substance removal from wastewater via domestic sewage treatment (%): 79

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 989 189

Assumed domestic sewage treatment plant flow (m3/d): 2.00E+03

Conditions and measures related to external treatment of waste for disposal

External recovery and recycling of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2. Control of exposure - Workers or Consumers

Product characteristics

2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures
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Remarks

No exposure assessment presented for human health.

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-BI-38372

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

Amounts used

Production volume in EU (tons/year) : 2.63E+03

Fraction of EU tonnage used in region: 0.1

Fraction of Regional tonnage used locally: 0.1

Frequency and duration of use

Emission Days (days/year): 300

Environment factors not influenced by risk management

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure

Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs): 5.0E-05

Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 2.00E-11

Release fraction to soil from process (after typical onsite RMMs): 0

Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Prevent discharge of undissolved substance to or recover from onsite wastewater

User sites are assumed to be provided with oil/water separators and for waste water to be discharged via public sewer system

Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Estimated substance removal from wastewater via domestic sewage treatment (%): 79

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 260 301

Assumed domestic sewage treatment plant flow (m3/d): 2000

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2. Control of exposure - Workers or Consumers

Product characteristics

2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures

Remarks

No exposure assessment presented for human health.

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-38372

1. Exposure scenario

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

Use Descriptor

Sector of use

Professional

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

Amounts used

Production volume in EU (tons/year) : 5.39E+03

Fraction of EU tonnage used in region: 0.1

Fraction of Regional tonnage used locally: 0.1

Frequency and duration of use

Emission Days (days/year): 365

Environment factors not influenced by risk management

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure

Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs): 5.00E-04

Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 5.00E-04

Release fraction to soil from process (after typical onsite RMMs): 1.00E-03

Technical conditions and measures at process level to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Prevent discharge of undissolved substance to or recover from onsite wastewater

Organizational measures to prevent/limit release from the site

Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant

Estimated substance removal from wastewater via domestic sewage treatment (%): 79

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 202

Assumed domestic sewage treatment plant flow (m3/d): 2.00E+03

Conditions and measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2. Control of exposure - Workers or Consumers

Product characteristics

2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures

Remarks

No exposure assessment presented for human health.

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

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