



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

SDS # : 30986

## AEROHYDRAULIC 520

Date of the previous version: 2017-06-01

Revision Date: 2017-06-01

Version 7

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

### 1.1. Product identifier

<b>Product name</b>	<b>AEROHYDRAULIC 520</b>
<b>Number</b>	126
<b>Substance/mixture</b>	Mixture

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

<b>Identified uses</b>	Hydraulic oil.
------------------------	----------------

### 1.3. Details of the supplier of the safety data sheet

<b>Supplier</b>	A - TOTAL UK LIMITED One Euston Square 40 Melton Street. London. NW1 2FD 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:

<b>Contact Point</b>	A - HSE
	B - HSE
<b>E-mail Address</b>	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 # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

### 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

Aspiration toxicity - Category 1 - (H304)

Acute inhalation toxicity - dust/mist - Category 4 - (H332)

Skin corrosion/irritation - Category 2 - (H315)

Chronic aquatic toxicity - Category 2 - (H411)

### 2.2. Label elements

Labelled according to REGULATION (EC) No 1272/2008

Contains Distillates (petroleum), hydrotreated middle , Gas oils (petroleum), hydrodesulfurized



**Signal word**  
DANGER

#### Hazard Statements

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H332 - Harmful if inhaled

H411 - Toxic to aquatic life with long lasting effects

#### Precautionary statements

P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

P280 - Wear eye protection/ face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTRE/doctor

P302 + P352 - IF ON SKIN: Wash with plenty of water/soap

P331 - Do NOT induce vomiting

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.

SDS # : 30986

# AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

## 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 %	GHS Classification
Distillates (petroleum), hydrotreated middle	265-148-2	01-2119489867-12	64742-46-7	80-<90	Acute Tox. 4 (H332) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Aquatic Chronic 2 (H411)
Gas oils (petroleum), hydrodesulfurized	265-182-8	-	64742-79-6	2.5-<5	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411)
2,6-di-tert-butylphenol	204-884-0	01-2119490822-33	128-39-2	0.25-<1	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Skin Irrit. 2 (H315) Acute M factor = 1
Xylene (mixed isomers o, m, p)	215-535-7	01-2119488216-32	1330-20-7	<0.01	Flam. Liq. 3 (H226) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 3 (H412)
Ethyl Benzene	202-849-4	no data available	100-41-4	<0.01	STOT RE 2 (H373) Asp. Tox. 1 (H304) Acute Tox. 4 (H332) Aquatic Chronic 3 (H412) Flam Liq. 2 (H225)
Ethyl acrylate	205-438-8	01-2119459301-46	140-88-5	<0.01	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 3 (H331) Aquatic Chronic 3 (H412) Flam. Liq. 2 (H225)

**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



SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

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.

**Skin contact**

Causes skin irritation. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

**Inhalation**

Harmful if inhaled. Inhalation of vapours in high concentration may cause irritation of respiratory system.

**Ingestion**

Harmful: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious inhalation pulmonary lesions (medical survey during 48 hours). 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<sub>2</sub>). 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.

#### 5.3. Precautions for fire-fighters

**Special protective equipment for**

Wear self-contained breathing apparatus and protective suit.



SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

### fire-fighters

**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 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

SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

### 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/m<sup>3</sup>, NIOSH (REL) TWA 5 mg/m<sup>3</sup>, STEL 10 mg/m<sup>3</sup>, ACGIH (TLV) TWA 5 mg/m<sup>3</sup> (highly refined);

Chemical Name	European Union	The United Kingdom	Ireland
Xylene (mixed isomers o, m, p) 1330-20-7	TWA 50 ppm TWA 221 mg/m <sup>3</sup> STEL 100 ppm STEL 442 mg/m <sup>3</sup> S*	STEL 100 ppm STEL 441 mg/m <sup>3</sup> TWA 50 ppm TWA 220 mg/m <sup>3</sup> Skin	TWA 50 ppm TWA 221 mg/m <sup>3</sup> STEL 100 ppm STEL 442 mg/m <sup>3</sup> Skin
Ethyl Benzene 100-41-4	TWA 100 ppm TWA 442 mg/m <sup>3</sup> STEL 200 ppm STEL 884 mg/m <sup>3</sup> S*	STEL 125 ppm STEL 552 mg/m <sup>3</sup> TWA 100 ppm TWA 441 mg/m <sup>3</sup> Skin	TWA 100 ppm TWA 442 mg/m <sup>3</sup> STEL 200 ppm STEL 884 mg/m <sup>3</sup> Skin
Ethyl acrylate 140-88-5	STEL 10 ppm STEL 42 mg/m <sup>3</sup> TWA 5 ppm TWA 21 mg/m <sup>3</sup>	STEL 10 ppm STEL 42 mg/m <sup>3</sup> TWA 5 ppm TWA 21 mg/m <sup>3</sup>	TWA 5 ppm TWA 20 mg/m <sup>3</sup> STEL 10 ppm STEL 41 mg/m <sup>3</sup> Skin

#### Legend

See section 16

Chemical Name	European Union	The United Kingdom	Ireland
Xylene (mixed isomers o, m, p) 1330-20-7		650	We are not aware of any national exposure limit

### 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 middle 64742-46-7	5000 mg/m <sup>3</sup> (inhalation)		16 mg/m <sup>3</sup> (inhalation) 2.9 mg/kg bw/day (dermal)	
Gas oils (petroleum), hydrodesulfurized	5000 mg/m <sup>3</sup> /15 min [aerosol]		2.9 mg/kg/8h (dermal) 16 mg/m <sup>3</sup> /8h (aerosol -	

SDS # : 30986

**AEROHYDRAULIC 520**

Revision Date: 2017-06-01

Version 7

64742-79-6			inhalation)	
2,6-di-tert-butylphenol 128-39-2			2.77 mg/kg bw/day Dermal 19.6 mg/m <sup>3</sup> Inhalation	
Xylene (mixed isomers o, m, p) 1330-20-7	289 mg/m <sup>3</sup> (Ethylbenzene-inhalation)	289 mg/m <sup>3</sup> (Ethylbenzene-inhalation)	77 mg/m <sup>3</sup> (ethylbenzene-inhalation) 180 mg/kg bw/day (ethylbenzene-dermal)	
Ethyl Benzene 100-41-4		293 mg/m <sup>3</sup> (inhalation)	77 mg/m <sup>3</sup> (inhalation) 180 mg/kg bw/day (dermal)	77 mg/m <sup>3</sup> (inhalation)
Ethyl acrylate 140-88-5		0.92 mg/m <sup>3</sup> (dermal)		21 mg/m <sup>3</sup> (inhalation)

**DNEL Consumer**

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Gas oils (petroleum), hydrosulfurized 64742-79-6	3000 mg/m <sup>3</sup> /15 min (aerosol - inhalation)		1.3 mg/kg/8h (dermal) 4.8 mg/m <sup>3</sup> /8h (aerosol – inhalation)	
2,6-di-tert-butylphenol 128-39-2			1.67 mg/kg bw/day Oral 5.8 mg/m <sup>3</sup> Inhalation	
Xylene (mixed isomers o, m, p) 1330-20-7	174 mg/m <sup>3</sup> (ethylbenzene-inhalation)	174 mg/m <sup>3</sup> (ethylbenzene-inhalation)	14.8 mg/m <sup>3</sup> (ethylbenzene-inhalation) 108 mg/kg bw/day (ethylbenzene-dermal) 1.6 mg/kg bw/day (ethylbenzene-oral)	
Ethyl Benzene 100-41-4		175 mg/m <sup>3</sup> Inhalation	15 mg/m <sup>3</sup> (inhalation) 1.6 mg/kg bw/day (oral) 242 mg/kg (dermal)	
Ethyl acrylate 140-88-5		0.92 mg/m <sup>3</sup> (dermal)		2.5 mg/m <sup>3</sup> (inhalation)

**Predicted No Effect Concentration (PNEC)**

Chemical Name	Water	Sediment	Soil	Air	STP	Oral
Distillates (petroleum), hydrotreated middle 64742-46-7						17 g/kg food
2,6-di-tert-butylphenol 128-39-2	0.00045 mg/l fw 0.000045 mg/l mw 0.0045 mg/l or	0.196 mg/kg dw fw 0.0196 mg/kg dw mw	0.0389 mg/kg dw		10 mg/l	
Xylene (mixed isomers o, m, p) 1330-20-7	0.327 mg/l fw 0.327 mg/l mw 0.327 mg/l or	12.46 mg/kg dw fw 12.46 mg/kg dw mw	2.31 mg/kg soil dw		6.58 mg/l	
Ethyl Benzene 100-41-4	0.1 mg/l fw 0.01 mg/l mw 0.1 mg/l or	13.7 mg/kg dw fw 1.37 mg/kg dw mw	2.68 mg/kg dw		9.6 mg/l	
Ethyl acrylate 140-88-5	0.00272 mg/l fw 0.00027 mg/l mw	0.0213 mg/kg sediment dw fw	1 mg/kg soil dw		10 mg/l	0.01 g/kg food



SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

	0.0011 mg/l or	0.0213 mg/kg sediment dw mw				
--	----------------	--------------------------------	--	--	--	--

### 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

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/P2. Warning ! filters have a limited use duration. If exposure limits are exceeded a self-contained breathing apparatus has to be worn. 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, Polyvinylchloride. 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

##### Appearance

Clear

##### Colour

red

##### Physical state @20°C

liquid





SDS # : 30986

**AEROHYDRAULIC 520**

Revision Date: 2017-06-01

Version 7

<b>Odour</b>		characteristic	
<b>Odour Threshold</b>		No information available	
<b>Property</b>	<b>Values</b>	<b>Remarks</b>	<b>Method</b>
<b>pH</b>		Not applicable	
<b>Melting point/range</b>		Not applicable	
<b>Boiling point/boiling range</b>		No information available	
<b>Flash point</b>	<b>96 °C</b> 205 °F		ISO 2719 ISO 2719
<b>Evaporation rate</b>		No information available	
<b>Flammability Limits in Air</b>		No information available	
<b>Upper</b>		No information available	
<b>Lower</b>		No information available	
<b>Vapour pressure</b>		No information available	
<b>Vapour density</b>		No information available	
<b>Relative density</b>	0.869 - 0.879	@ 15 °C	ISO 12185
<b>Density</b>	869 - 879 kg/m <sup>3</sup>	@ 15 °C	ISO 12185
<b>Water solubility</b>		Insoluble	
<b>Solubility in other solvents</b>		No information available	
<b>logPow</b>		No information available	
<b>Autoignition temperature</b>		No information available	
<b>Decomposition temperature</b>		No information available	
<b>Viscosity, kinematic</b>	13 - 15.2 mm <sup>2</sup> /s	@ 40 °C	ISO 3104
<b>Explosive properties</b>	Not explosive		
<b>Oxidising properties</b>	Not applicable		
<b>Possibility of hazardous reactions</b>	None under normal processing		

9.2. Other information**Freezing point** No information available**Pour 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



SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

**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. Sulphur oxides. Hydrogen sulphide.

## Section 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Acute toxicity Local effects Product Information

**Skin contact** . Causes skin irritation. 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.

**Inhalation** . Harmful if inhaled. Inhalation of vapours in high concentration may cause irritation of respiratory system.

**Ingestion** . Harmful: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious inhalation pulmonary lesions (medical survey during 48 hours). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**ATEmix (oral)** 5,667.00 mg/kg

**ATEmix (dermal)** 5,257.00 mg/kg

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

**ATEmix (inhalation-dust/mist)** 2.10 mg/l

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

#### Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates (petroleum), hydrotreated middle	LD50 > 5000 mg/kg bw (rat)	LD50 > 5000 mg/kg bw (rabbit)	LC50(4h) 1.78 mg/l (rat - aerosol)
Gas oils (petroleum), hydrodesulfurized	LD50 > 5000 mg/kg bw (rat - OECD 401)	LD50 > 2000 mg/kg bw (rabbit - OECD 402)	LC50 (4h) 4.6 mg/l (aerosol) (rat - OECD 403)
2,6-di-tert-butylphenol	> 5000 mg/kg ( Rat )	LD50 > 2000 mg/kg ( Rabbit )	
Xylene (mixed isomers o, m, p)	LD50 4300 mg/kg (Rat)	LD50 > 2000 mg/kg (Rabbit)	CL50(4h) 27.5 mg/l (Rat - Vapour)
Ethyl Benzene	LD50 3500 mg/kg bw (rat)	LD50 15500 mg/kg bw (rabbit)	LC50(4h) 17.2 mg/l (rat-vapour)
Ethyl acrylate	LD50 1120 mg/kg bw (rat)	LD50 3049 mg/kg bw (rat)	LC50 (4h) < 9.137 mg/l (rat - vapour)



SDS # : 30986

**AEROHYDRAULIC 520**

Revision Date: 2017-06-01

Version 7

**Sensitisation****Sensitisation** Not classified based on available data.**Specific effects****Carcinogenicity** Not classified based on available data.**Mutagenicity** Not classified based on available data.**Germ cell mutagenicity** Not classified based on available data.**Reproductive toxicity** Not classified based on available data.**Repeated dose toxicity****Subchronic Toxicity** Not classified based on available data.**Target Organ Effects (STOT)****Target Organ Effects (STOT)** Not classified based on available data.**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**

Toxic 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 middle 64742-46-7	EL50 (72h) 1.714 mg/l (Pseudokirchnerella subcapitata)	EL50 (48h) 7.385 mg/l Daphnia magna	LL50(96h) 1.13 - 65 mg/l (Oncorhynchus mykiss)	
Gas oils (petroleum), hydrodesulfurized 64742-79-6		EL50 (48h) 7.385 mg/l (Daphnia magna - QSAR Petrotox)	LL50 (96h) 21 mg/l (Oncorhynchus mykiss - OECD 203)	

SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

2,6-di-tert-butylphenol 128-39-2	EC50 (72h) 1.2 mg/l	EC50 (48h) = 0.45 mg/L Daphnia magna	LC50(96h) 1 mg/l (fish)	
Xylene (mixed isomers o, m, p) 1330-20-7	IC50 (72h) = 2.2 mg/l Pseudokirchnerella subcapitata ErC50(73h) 4.36 mg/l (Pseudokirchneriella subcapitata - static - OECD 201)	EC50 (48h) = 1.0 mg/l Daphnia magna	LC50(96h) 2.6 mg/l (Oncorhynchus mykiss - semi static - OECD203)	EC50 = 0.0084 mg/L 24 h
Ethyl Benzene 100-41-4	EC50(72h) 3.6 - 4.6 mg/l (Pseudokirchneriella subcapitata - OECD 201)	EC50(24h) 2.2 mg/l (Daphnia magna)	LC50(96h) 4.2 mg/l (Oncorhynchus mykiss - OECD 203)	
Ethyl acrylate 140-88-5	EC50 (72h) 5.9 mg/l (Pseudokirchnerella subcapitata - OECD 201) EC50 (96h) 5.2 mg/l (Pseudokirchnerella subcapitata - OECD 201) EC50 (72h) 2.65 mg/l (Pseudokirchnerella subcapitata - OECD 201) EC50 (72h) 48 mg/l (Desmodesmus subspicatus)	EC50 (48h) 7.9 mg/l (Daphnia magna)	LC50 (96h) 2 mg/l (Cyprinodon variegatus) LC50 (96h) 4.6 mg/l (Oncorhynchus mykiss (96h)) LC50 (96h) 2.31 - 2.7 mg/l (Pimephales promelas) LC50 (96h) 10.0 - 22.0 mg/l (Leuciscus idus)	

### 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
Distillates (petroleum), hydrotreated middle 64742-46-7	NOEL(14d) 0.069 mg/l (Oncorhynchus mykiss)	NOEL(21d) 0.163 mg/l (Daphnia magna)		
Gas oils (petroleum), hydrodesulfurized 64742-79-6		NOEL (21d) 0.163 mg/l (Daphnia magna - QSAR Petrotox)		
2,6-di-tert-butylphenol 128-39-2			NOEC (28d) 0.3 mg/l (fish)	
Xylene (mixed isomers o, m, p) 1330-20-7	NOEC(73h) 0.44 mg/l (Pseudokirchneriella subcapitata - OECD 201)		NOEC(56d) > 1.3 mg/l (Oncorhynchus mykiss)	
Ethyl Benzene 100-41-4		NOEC(7days) 0.96 mg/l (Ceriodaphnia dubia)	NOEC(4days) 3.3 mg/l (fish)	
Ethyl acrylate 140-88-5	NOEC (96h) < 3.8 mg/l (Pseudokirchnerella subcapitata - OECD 201) NOEC (96h) < 1.8 mg/l (Pseudokirchnerella subcapitata - OECD 201)	NOEC (21d) 0.19 mg/l (Daphnia magna) LOEC (21d) 0.45 mg/l (Daphnia magna) EC (21d) 0.5 mg/l (Daphnia magna)	NOEC (96h) 0.62 mg/l (Cyprinodon variegatus)	

### Effects on terrestrial organisms

No information available.

### 12.2. Persistence and Degradability



SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

### 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 middle - 64742-46-7	4.1
2,6-di-tert-butylphenol - 128-39-2	4.48
Xylene (mixed isomers o, m, p) - 1330-20-7	3.12
Ethyl Benzene - 100-41-4	3.15

### 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 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. 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 01 10.

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



SDS # : 30986

**AEROHYDRAULIC 520**

Revision Date: 2017-06-01

Version 7

## Section 14: TRANSPORT INFORMATION

ADR/RID

<b>UN/ID No</b>	UN3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing group</b>	III
<b>ADR/RID-Labels</b>	9
<b>Environmental hazard</b>	Yes
<b>Classification Code</b>	M6
<b>Special Provisions</b>	274, 335, 601, 375
<b>Tunnel restriction code</b>	(E)
<b>ADR Hazard Id (Kemmler Number)</b>	90
<b>Description</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Distillates (petroleum), hydrotreated middle), 9, III
<b>Excepted Quantity</b>	E1
<b>Limited quantity</b>	5 L

IMDG/IMO

<b>UN/ID No</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	P
<b>EmS</b>	F-A, S-F
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Distillates (petroleum), hydrotreated middle), 9, III, Marine Pollutant
<b>Special Provisions</b>	274, 335
<b>Excepted Quantity</b>	E1
<b>Limited quantity</b>	5 L

ICAO/IATA

<b>UN/ID No</b>	UN3082
<b>Hazard Class</b>	9
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Packing group</b>	III
<b>ERG Code</b>	9L
<b>Special Provisions</b>	A97, A158, A197
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Distillates (petroleum), hydrotreated middle), 9, III
<b>Excepted Quantity</b>	E1
<b>Limited quantity</b>	30 kg G

ADN

<b>UN/ID No</b>	UN3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
<b>Hazard Class</b>	9
<b>Hazard Labels</b>	9
<b>Packing group</b>	III
<b>Environmental hazard</b>	Yes



SDS # : 30986

**AEROHYDRAULIC 520**

Revision Date: 2017-06-01

Version 7

<b>Classification Code</b>	M6
<b>Special Provisions</b>	274, 335, 375, 601
<b>Description</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Distillates (petroleum), hydrotreated middle), 9, III
<b>Excepted Quantity</b>	E1
<b>Limited quantity</b>	5 L

## 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 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**

H225 - Highly flammable liquid and vapour

H226 - Flammable liquid and vapour

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

H373 - May cause damage to the kidneys/ liver/ eyes/ brain/ digestive system/ central nervous system through prolonged or repeated exposure if swallowed



SDS # : 30986

## AEROHYDRAULIC 520

Revision Date: 2017-06-01

Version 7

H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects  
 H411 - Toxic to aquatic life with long lasting effects  
 H412 - Harmful 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

\*\* Hazard Designation

M: Mutagen

\*

C:

R:

Skin designation

Carcinogen

Toxic to reproduction

Revision Date: 2017-06-01

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



LUBGES-AI-31768

## 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) : 30 000

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): Non

Disponible

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 (%): 94.3

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 1.1E+06

Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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**

**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.

**Human factors not influenced by risk management**

not applicable

## 2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures
<b>General measures applicable to all activities</b>	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.
<b>General exposures. Use in contained systems elevated temperature - PROC 2</b>	No other specific measures identified.
<b>Mixing operations (closed systems). Batch processes at elevated temperatures - PROC 3</b>	Provide extract ventilation to points where emissions occur.
<b>Mixing operations (open systems). Batch processes at elevated temperatures - PROC 4; 5</b>	Provide extract ventilation to points where emissions occur. Avoid carrying out activities involving exposure for more than 4 hours.
<b>Mixing operations (open systems) - PROC 4; 5</b>	Provide extract ventilation to points where emissions occur.
<b>Process sampling - PROC 4; 8b</b>	Avoid carrying out activities involving exposure for more than 1 hour. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
<b>Bulk transfers; dedicated facility - PROC 8b</b>	Avoid carrying out operation for more than 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
<b>Drum/batch transfers; dedicated facility - PROC 8b</b>	Provide extract ventilation to points where emissions occur.
<b>Drum/batch transfers; non-dedicated facility - PROC 8a</b>	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.
<b>Equipment cleaning and maintenance - PROC 8a; 8b</b>	Drain down and flush system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Clear spills immediately.
<b>Drum and small package filling - PROC 9</b>	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.
<b>Laboratory activities - PROC 15</b>	Avoid carrying out activities involving exposure for more than 4 hours.
<b>Storage - PROC 1; 2</b>	Store substance within a closed system.

## 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
<b>Remarks</b> 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](http://www.atiel.org/reach/introduction)

LUBGES-BI-31768

## 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) : 100

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): Non Disponible

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 (%): 94.3

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 2.2E+06

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**

**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
<b>General measures applicable to all activities</b>	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.
<b>General exposures (closed systems) - PROC 1</b>	No other specific measures identified.
<b>Initial factory fill of equipment Use in contained systems - PROC 2; 9</b>	No other specific measures identified.
<b>Initial factory fill of equipment (open systems) - PROC 8b</b>	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 4 hours.
<b>Operation of equipment containing engine oils and similar Use in contained systems - PROC 1</b>	No other specific measures identified.
<b>Equipment cleaning and maintenance - PROC 8b</b>	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.
<b>Equipment cleaning and maintenance Operation is carried out at elevated temperature (&gt; 20°C above ambient temperature) - PROC 8b</b>	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.
<b>Storage - PROC 1; 2</b>	Store substance within a closed system.

## 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
<b>Not applicable</b>	

### 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](http://www.atiel.org/reach/introduction)



LUBGES-BP-31768

## 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) : 1.0E-02

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): Non Disponible

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 (%): 94.3

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 12

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

#### 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
<b>General measures applicable to all activities</b>	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.
<b>Operation of equipment containing engine oils and similar Use in contained systems - PROC 1</b>	No other specific measures identified.
<b>Material transfers; non-dedicated facility - PROC 8a</b>	Avoid carrying out activities involving exposure for more than 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
<b>Equipment cleaning and maintenance; dedicated facility - PROC 8b; 20</b>	Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
<b>Storage - PROC 1; 2</b>	Store substance within a closed system.

### 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
<b>Remarks</b>	
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](http://www.atiel.org/reach/introduction)

LUBGES-CI-31768

## 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

#### Amounts used

Production volume in EU (tons/year) : 100

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): Non  
Disponibile

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 (%): 94.3

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 2.2E+06

Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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****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
<b>General measures applicable to all activities</b>	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.
<b>Material transfers - PROC 8b</b>	Avoid carrying out activities involving exposure for more than 1 hour.
<b>Material transfers; Automated process with (semi) closed systems - PROC 8b; 9</b>	Ensure material transfers are under containment or extract ventilation.
<b>Roller, spreader, flow application - PROC 10</b>	Provide extract ventilation to points where emissions occur. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
<b>Spraying - PROC 7</b>	Carry out in a vented booth or extracted enclosure. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
<b>Treatment of articles by dipping and pouring - PROC 13</b>	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.
<b>Equipment cleaning and maintenance - PROC 8b</b>	Drain down system prior to equipment break-in or maintenance. Provide a good standard of controlled ventilation (not less than 3 to 15 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.
<b>Storage - PROC 1; 2</b>	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](http://www.atiel.org/reach/introduction)

LUBGES-CP-31768

## 1. Exposure scenario

### Use of lubricants and greases in open systems. 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

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

#### Amounts used

Production volume in EU (tons/year) : 1.1E-02

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): Non Disponible

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

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 (%): 94.3

Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d): 1.3E+01

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****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
<b>General measures applicable to all activities</b>	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.
<b>Material transfers - PROC 8a</b>	Avoid carrying out activities involving exposure for more than 1 hour.
<b>Roller, spreader, flow application - PROC 10</b>	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. Wear a respirator conforming to EN140 with Type A filter or better. or. Provide extract ventilation to points where emissions occur.
<b>Spraying - PROC 11</b>	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 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.
<b>Treatment of articles by dipping and pouring - PROC 13</b>	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.
<b>Equipment cleaning and maintenance - PROC 8a</b>	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.
<b>Storage - PROC 1; 2</b>	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](http://www.atiel.org/reach/introduction)