SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : PETAMO GHY 133 N (H)

Article-No. : 094148

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

Use of the Substance/Mixture : Grease

Recommended restrictions on use : Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Company : Klüber Lubrication München
Geisenhausenerstr. 7
81379 München
Deutschland
Tel: +49 (0) 89 7876 0
Fax: +49 (0) 89 7876 333
info@klueber.com

E-mail address of person responsible for the SDS : mcm@klueber.com
Material Compliance Management

National contact : Klüber Lubrication Belgium Netherlands
Rue Cardinal Mercier 100
7711 Dottignies
Belgium
Tel: +32 56 483333
Fax: +32 56 486252
sales@be.klueber.com

1.4 Emergency telephone number

Emergency telephone number : 070 245 245 Antigifcentrum / Centre antipoisons

+49 89 7876 700 (24 hrs)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Hazard statements : H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Additional Labelling

EUH208 Contains Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol. May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mineral oil.
Synthetic hydrocarbon oil
polyurea

Components

Chemical name	CAS-No. EC-No. Index-No.	Classification	specific concentration limit M-Factor Notes	Concentration (% w/w)

	Registration number		Acute toxicity estimate	
reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097)	430-980-9 01-0000017722-71-0001 01-0000017722-71-0002 01-0000017722-71-0000	Aquatic Chronic4; H413		>= 2,5 - < 10
Phenol, isopropylated, phosphate (3:1)	68937-41-7 273-066-3 01-2119535109-41-XXXX	Repr.2; H361 STOT RE2; H373 Aquatic Chronic1; H410	M-Factor: /10	>= 1 - < 2,5
Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol	946-010-7 01-2120770934-44-XXXX	Skin Sens.1; H317		>= 0,1 - < 1
triphenyl phosphate	115-86-6 204-112-2	Aquatic Acute1; H400 Aquatic Chronic2; H411	M-Factor: 1/1	>= 0,25 - < 1
Substances with a workplace exposure limit :				
residual oils (petroleum), hydrotreated	64742-57-0 265-160-8 649-470-00-4 01-2119489287-22-XXXX	Not classified	Note L	>= 50 - < 70

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Obtain medical attention.
Remove person to fresh air. If signs/symptoms continue, get medical attention.

Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : Take off all contaminated clothing immediately.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
Wash off immediately with plenty of water.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
If eye irritation persists, consult a specialist.

If swallowed : Move the victim to fresh air.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Obtain medical attention.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Allergic appearance

Risks : May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Sulphur oxides
Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.
Further information	:	Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Evacuate personnel to safe areas. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Do not breathe vapours, aerosols. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions	:	Do not allow contact with soil, surface or ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Wash hands and face before breaks and immediately after handling the product.

Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not ingest.
Do not repack.
These safety instructions also apply to empty packaging which may still contain product residues.
Keep container closed when not in use.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations. Keep in properly labelled containers.

7.3 Specific end use(s)

Specific use(s) : Specific instructions for handling, not required.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
residual oils (petroleum), hydrotreated	64742-57-0	TLV 8 hr (Mist)	5 mg/m3	BE OEL (2011-11-30)
		TLV 15 min (Mist)	10 mg/m3	BE OEL (2011-11-30)
triphenyl phosphate	115-86-6	TLV 8 hr	3 mg/m3	BE OEL (2006-03-23)

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
residual oils (petroleum), hydrotreated	Workers	Inhalation	Long-term systemic effects	2,7 mg/m3
	Workers	Inhalation	Acute systemic effects	5,6 mg/m3
	Workers	Skin contact	Long-term systemic effects	1 mg/kg
O,O,O-triphenyl phosphorothioate	Workers	Inhalation	Long-term systemic effects	1,39 mg/m3
	Workers	Skin contact	Long-term systemic	0,4 mg/kg

			effects	
Phenol, isopropylated, phosphate (3:1)	Workers	Inhalation	Long-term systemic effects	0,145 mg/m3
	Workers	Inhalation	Acute systemic effects	700 mg/m3
	Workers	Skin contact	Long-term systemic effects	0,416 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	2000 mg/kg bw/day
	Workers	Skin contact	Acute local effects	16 mg/cm2
Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol	Workers	Dermal	Long-term systemic effects	8,33 mg/kg bw/day
triphenyl phosphate	Workers	Inhalation	Long-term systemic effects	5,2 mg/m3
	Workers	Skin contact	Long-term systemic effects	5,55 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
O,O,O-triphenyl phosphorothioate	Sewage treatment plant	1 mg/l
	Soil	2,37 mg/l
Phenol, isopropylated, phosphate (3:1)	Fresh water	0 mg/l
	Intermittent use/release	0,015 mg/l
	Marine water	0 mg/l
	Sewage treatment plant	100 mg/kg
	Fresh water sediment	0,185 mg/kg dry weight (d.w.)
	Marine sediment	0,018 mg/kg dry weight (d.w.)
	Soil	2,5 mg/kg dry weight (d.w.)
	Oral	1,85 mg/kg
triphenyl phosphate	Fresh water	0,004 mg/l
	Intermittent use/release	0,003 mg/l
	Marine water	0,0004 mg/l
	Sewage treatment plant	5 mg/l
	Fresh water sediment	1,103 mg/kg dry weight (d.w.)
	Marine sediment	0,11 mg/kg dry weight (d.w.)
	Soil	0,218 mg/kg dry weight (d.w.)
	Oral	16,667 mg/kg

8.2 Exposure controls

Engineering measures

Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Eye protection	:	Safety glasses with side-shields
Hand protection		
Material	:	Nitrile rubber
Break through time	:	> 10 min
Protective index	:	Class 1
Remarks	:	Wear protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Respiratory protection	:	Not required; except in case of aerosol formation.
Filter type	:	Filter type P
Protective measures	:	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	paste
Colour	:	brown
Odour	:	characteristic
Odour Threshold	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flammability	:	Combustible Solids
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature		
Decomposition temperature	:	No data available
pH	:	Not applicable
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	< 0,001 hPa (20 °C)
Relative density	:	0,900 (20 °C) Reference substance: Water The value is calculated
Density	:	0,90 g/cm3 (20 °C)
Bulk density	:	No data available
Relative vapour density	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	No data available
Self-ignition	:	No data available
Evaporation rate	:	No data available
Sublimation point	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazards to be specially mentioned.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Conditions to avoid : No conditions to be specially mentioned.

10.5 Incompatible materials

Materials to avoid : No materials to be especially mentioned.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Remarks: This information is not available.

Acute inhalation toxicity : Remarks: This information is not available.

Acute dermal toxicity : Symptoms: Redness, Local irritation

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 423
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal

toxicity

Phenol, isopropylated, phosphate (3:1):

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 200 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 10.000 mg/kg
GLP: no

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 425
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

triphenyl phosphate:

Acute oral toxicity : LD50 (Rat): > 20.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 200 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 10.000 mg/kg
Method: OECD Test Guideline 402

residual oils (petroleum), hydrotreated:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

Phenol, isopropylated, phosphate (3:1):

Species	:	Rabbit
Exposure time	:	72 h
Assessment	:	No skin irritation
Result	:	No skin irritation
GLP	:	no

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Species	:	reconstructed human epidermis (RhE)
Assessment	:	No skin irritation
Result	:	No skin irritation

triphenyl phosphate:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

residual oils (petroleum), hydrotreated:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Product:

Remarks	:	This information is not available.

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
GLP	:	yes

Phenol, isopropylated, phosphate (3:1):

Species	:	Rabbit
Assessment	:	No eye irritation
Result	:	No eye irritation
GLP	:	no

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Species	:	Rabbit
Assessment	:	No eye irritation
Result	:	No eye irritation

triphenyl phosphate:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
GLP	:	yes

residual oils (petroleum), hydrotreated:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Phenol, isopropylated, phosphate (3:1):

Species	:	Mouse
Assessment	:	Did not cause sensitisation on laboratory animals.
Method	:	OECD Test Guideline 429
Result	:	Did not cause sensitisation on laboratory animals.
GLP	:	yes

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Assessment	:	May cause sensitisation by skin contact.
Result	:	May cause sensitisation by skin contact.

triphenyl phosphate:

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

residual oils (petroleum), hydrotreated:

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
Assessment	:	Does not cause respiratory sensitisation.
Result	:	Does not cause respiratory sensitisation.

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Remarks: No data available

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Test system: Chinese hamster cells Method: OECD Test Guideline 473 Result: negative
Germ cell mutagenicity- Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Genotoxicity in vitro	:	Remarks: In vitro tests did not show mutagenic effects

triphenyl phosphate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Product:

Remarks : No data available

Components:

triphenyl phosphate:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

residual oils (petroleum), hydrotreated:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

Phenol, isopropylated, phosphate (3:1):

Reproductive toxicity - Assessment : - Fertility -

Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
- Teratogenicity -

Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Reproductive toxicity - Assessment : - Fertility -

Animal testing did not show any effects on fertility.

triphenyl phosphate:

Effects on foetal development	:	Species: Rabbit Application Route: Oral General Toxicity Maternal: NOAEL: >= 200 mg/kg body weight Teratogenicity: NOAEL: >= 200 mg/kg body weight Developmental Toxicity: NOAEL: >= 200 mg/kg body weight Embryo-foetal toxicity: NOAEL: >= 200 mg/kg body weight Method: OECD Test Guideline 414 Result: No effects on fertility and early embryonic development were detected.
Reproductive toxicity - Assessment	:	- Fertility - No toxicity to reproduction - Teratogenicity - No effects on or via lactation

STOT - single exposure

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Phenol, isopropylated, phosphate (3:1):

Exposure routes	:	Ingestion
Target Organs	:	ovaries, Testes, Liver, Adrenal gland
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Product:

Remarks	:	This information is not available.

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Species	:	Rat
NOAEL	:	1.000 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 407

triphenyl phosphate:

Species	:	Rat
NOAEL	:	105 mg/kg
Application Route	:	Oral
Method	:	OECD Test Guideline 408

Species	:	Rabbit
NOAEL	:	1.000 mg/kg
Application Route	:	Dermal

Aspiration toxicity

Product:

This information is not available.

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

No aspiration toxicity classification

Phenol, isopropylated, phosphate (3:1):

No aspiration toxicity classification

triphenyl phosphate:

No aspiration toxicity classification

residual oils (petroleum), hydrotreated:

No aspiration toxicity classification

Further information

Product:

Remarks	:	Information given is based on data on the components and the toxicology of similar products.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	Remarks: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae/aquatic plants	:	Remarks: No data available
Toxicity to microorganisms	:	Remarks: No data available

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	:	EC50 (activated sludge): > 1.000 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209 GLP: yes

Phenol, isopropylated, phosphate (3:1):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1,6 mg/l Exposure time: 96 h Test Type: static test Remarks: Information given is based on tests on the mixture itself.

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2,44 mg/l Exposure time: 48 h Test Type: semi-static test Remarks: Information given is based on tests on the mixture itself.
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 2,5 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes Remarks: Information given is based on tests on the mixture itself.
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,0031 mg/l Exposure time: 33 d Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,0415 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	10

triphenyl phosphate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0,4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,36 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 0,25 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 EL10 (Pseudokirchneriella subcapitata (green algae)): 0,25 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	NOEC (activated sludge): 100 mg/l Exposure time: 28 h

Toxicity to fish (Chronic toxicity)	:	NOEC: 0,037 mg/l Exposure time: 30 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,254 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	1

residual oils (petroleum), hydrotreated:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10.000 mg/l Exposure time: 48 h Test Type: Immobilization

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available
Physico-chemical removability	:	Remarks: No data available

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Biodegradability	:	Test Type: aerobic Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 23,9 % Exposure time: 28 d Method: OECD Test Guideline 301F GLP: yes

Phenol, isopropylated, phosphate (3:1):

Biodegradability	:	Result: Not rapidly biodegradable Biodegradation: 17,9 % Exposure time: 28 d Method: OECD Test Guideline 301D GLP: yes

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Biodegradability : Result: Not rapidly biodegradable

triphenyl phosphate:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 83 - 94 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

residual oils (petroleum), hydrotreated:

Biodegradability : Result: Not rapidly biodegradable

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

reaction product of diphenylmethanediisocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097):

Partition coefficient: n-octanol/water : log Pow: > 6 (20 °C)
Method: OECD Test Guideline 117

Phenol, isopropylated, phosphate (3:1):

Partition coefficient: n-octanol/water : log Pow: 4,92 - 5,17 (25 °C)

Condensation products of fatty acids, tall oil with 2-amino-2-ethylpropanediol:

Bioaccumulation : Bioconcentration factor (BCF): < 100

Partition coefficient: n-octanol/water : log Pow: 9,01

triphenyl phosphate:

Bioaccumulation : Species: Oryzias latipes (Orange-red killifish)
Exposure time: 18 d
Concentration: 0,01 mg/l
Bioconcentration factor (BCF): 144

Partition coefficient: n-octanol/water : log Pow: 4,6 (20 °C)

12.4 Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

Components:

Phenol, isopropylated, phosphate (3:1):

Assessment : Non-classified PBT substance. Non-classified vPvB substance.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Waste codes should be assigned by the user based on the application for which the product was used.

Contaminated packaging	:	Packaging that is not properly emptied must be disposed of as the unused product. Dispose of waste product or used containers according to local regulations. The following Waste Codes are only suggestions:
Waste Code	:	used product, unused product 12 01 12*, spent waxes and fats uncleaned packagings 15 01 10, packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 3077
ADR	:	UN 3077
RID	:	UN 3077
IMDG	:	UN 3077
IATA	:	UN 3077

14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Triaryl Phosphate Isopropylated, triphenyl phosphate)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Triaryl Phosphate Isopropylated, triphenyl phosphate)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Triaryl Phosphate Isopropylated, triphenyl phosphate)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Triaryl Phosphate Isopropylated, triphenyl phosphate)
IATA	:	Environmentally hazardous substance, solid, n.o.s. (Triaryl Phosphate Isopropylated, triphenyl phosphate)

14.3 Transport hazard class(es)

ADN	:	9
ADR	:	9
RID	:	9

IMDG : 9

IATA : 9

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

ADR

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

RID

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). (EU SVHC)	:	This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (Annex XIV) (EU. REACH - Annex XIV)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer (EC 1005/2009)	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) (EU POP)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals (EU PIC)	:	Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	:	E2 ENVIRONMENTAL HAZARDS
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 2,18 %

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

H317	:	May cause an allergic skin reaction.
H361	:	Suspected of damaging fertility or the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
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.
H413	:	May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Note L	:	The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 "Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions - Dimethyl sulphoxide extraction refractive index method", Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.
BE OEL	:	Belgium. Occupational exposure limit values
BE OEL / TLV 8 hr	:	Long term exposure limit
BE OEL / TLV 15 min	:	Short term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a

test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Aquatic Chronic 2	H411	Calculation method