

WE MAKE
CHEMISTRY
WORK**MAVROX® PU TOPCOAT 1C**Version number: GHS 4.0
Replaces version of: 2023-04-19 (GHS 3)

Revision: 2023-06-27

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**Trade name **Mavrox® PU Topcoat 1C**
Alternative number(s) 57712**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses Coating

1.3 Details of the supplier of the safety data sheetMavro International BV
Heksekamp 1
5301 LX Zaltbommel
NetherlandsTelephone: +31 418 680 680
e-mail: info@mavro-int.com
Website: <https://www.mavro-int.com>**1.4 Emergency telephone number**Emergency information service +31 418 680 680
This number is only available during the following office hours: Mon-Fri 09:00 AM - 05:00 PM

Poison centre					
Country	Name	Postal code/city	Telephone	Telefax	Opening hours
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital		0344 892 0111		Mon - Fri 12:00 AM - 12:00 AM

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.7	reproductive toxicity	1B	Repr. 1B	H360
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

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Section	Hazard class	Category	Hazard class and category	Hazard statement
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

- Signal word danger

- Pictograms

GHS07, GHS08



- Hazard statements

H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H360 May damage fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

- Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container to industrial combustion plant.

- Supplemental hazard information

EUH204 Contains isocyanates. May produce an allergic reaction.

- Hazardous ingredients for labelling

HDI oligomers, uretdione, dibutyltin dilaurate, hexamethylene-di-isocyanate, Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
HDI oligomers, uretdione	EC No 931-288-4	75 - < 90	Acute Tox. 3 / H331 Skin Sens. 1 / H317 STOT SE 3 / H335	
hexamethylene-di-isocyanate	CAS No 822-06-0 EC No 212-485-8 Index No 615-011-00-1	< 1	Acute Tox. 4 / H302 Acute Tox. 1 / H330 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 STOT SE 3 / H335	 
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	CAS No 1065336-91-5 EC No 915-687-0	< 1	Skin Sens. 1A / H317 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	 
dibutyltin dilaurate	CAS No 77-58-7 EC No 201-039-8 Index No 050-030-00-3	< 1	Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Muta. 2 / H341 Repr. 1B / H360FD STOT SE 1 / H370 STOT RE 1 / H372 Aquatic Acute 1 / H400	  

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
HDI oligomers, uretdione	-	-	3 mg _i /4h 0.5 mg _i /4h	inhalation: vapour inhalation: dust/mist
hexamethylene-di-isocyanate	Resp. Sens. 1; H334: C ≥ 0.5 % Skin Sens. 1; H317: C ≥ 0.5 %	-	959 mg _i /kg 0.124 mg _i /4h	oral inhalation: vapour

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

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Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Get immediate medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture**Hazardous combustion products**

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up**Advice on how to contain a spill**

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

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Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feed-stuffs.

7.2 Conditions for safe storage, including any incompatibilities

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
GB	talc	14807-96-6	WEL		1					r, no_asb	EH40/2005
GB	isocyanates, compounds	822-06-0	WEL		0.02		0.07			NCO	EH40/2005

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
NCO	measured total-NCO (isocyanate)
no_asb	containing no asbestos fibres
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
GB	Isocyanates (applies to HDI, IPDI, TDI and MDI)	isocyanate-derived diamine	crea	BMGV	1 µmol/mol	EH40/2005

Notation

crea creatinine

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
HDI oligomers, uretdione		DNEL	0.35 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
HDI oligomers, uretdione		DNEL	0.7 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
dibutyltin dilaurate	77-58-7	DNEL	0.02 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
dibutyltin dilaurate	77-58-7	DNEL	0.059 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
dibutyltin dilaurate	77-58-7	DNEL	0.43 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
dibutyltin dilaurate	77-58-7	DNEL	2.08 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	DNEL	0.68 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	DNEL	0.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
hexamethylene-diisocyanate	822-06-0	DNEL	0.035 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
hexamethylene-diisocyanate	822-06-0	DNEL	0.07 mg/m ³	human, inhalatory	worker (industry)	acute - local effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
HDI oligomers, uretdione		PNEC	0.05 mg/l	aquatic organisms	freshwater	short-term (single instance)
HDI oligomers, uretdione		PNEC	0.005 mg/l	aquatic organisms	marine water	short-term (single instance)

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Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
HDI oligomers, uretdione		PNEC	55.6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
HDI oligomers, uretdione		PNEC	94.5 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
HDI oligomers, uretdione		PNEC	9.45 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
HDI oligomers, uretdione		PNEC	18.9 mg/kg	terrestrial organisms	soil	short-term (single instance)
dibutyltin dilaurate	77-58-7	PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
dibutyltin dilaurate	77-58-7	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
dibutyltin dilaurate	77-58-7	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
dibutyltin dilaurate	77-58-7	PNEC	0.05 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
dibutyltin dilaurate	77-58-7	PNEC	0.005 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
dibutyltin dilaurate	77-58-7	PNEC	0.041 mg/kg	terrestrial organisms	soil	short-term (single instance)
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	PNEC	0.002 mg/l	aquatic organisms	freshwater	short-term (single instance)
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	PNEC	1.05 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Reaction mass of Bis(1,2,2,6,6-penta-methyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-penta-methyl-4-piperidyl sebacate	1065336-91-5	PNEC	0.11 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Reaction mass of Bis(1,2,2,6,6-penta-methyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-penta-methyl-4-piperidyl sebacate	1065336-91-5	PNEC	0.21 mg/kg	terrestrial organisms	soil	short-term (single instance)
hexamethylene-diisocyanate	822-06-0	PNEC	8.42 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- Type of material

Nitrile

- Material thickness

>0,12mm

- Breakthrough times of the glove material

>480 minutes (permeation: level 6)

- Other protection measures

Wash hands thoroughly after handling.

Body protection

Protective clothing against liquid chemicals.

Respiratory protection

Type: ABEK-P2 (combined filters against gases, vapours and particles, colour code: Brown/Grey/Yellow/Green/White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	cloudy
Odour	odourless
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	174 °C
Auto-ignition temperature	430 °C
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not determined
Solubility(ies)	not determined

Partition coefficient

Partition coefficient n-octanol/water (log value)	6.62
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Vapour pressure	not determined
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Density and/or relative density

Density	1.172 g/cm ³
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
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9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Harmful if inhaled.

- Acute toxicity estimate (ATE)

Inhalation: vapour 2.754 mg/l/4h

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
HDI oligomers, uretdione		inhalation: vapour	3 mg/l/4h
HDI oligomers, uretdione		inhalation: dust/mist	0.5 mg/l/4h
hexamethylene-di-isocyanate	822-06-0	oral	959 mg/kg
hexamethylene-di-isocyanate	822-06-0	inhalation: vapour	0.124 mg/l/4h

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Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
HDI oligomers, uretdione		EC50	5,560 mg/l	microorganisms	3 h
dibutyltin dilaurate	77-58-7	EC50	>1,000 mg/l	microorganisms	3 h
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	EC50	2.2 mg/l	aquatic invertebrates	21 d
hexamethylene-di-isocyanate	822-06-0	EC50	842 mg/l	microorganisms	3 h

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12.2 Persistence and degradability

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
HDI oligomers, uretdione		oxygen depletion	1 %	28 d		ECHA
dibutyltin dilaurate	77-58-7	oxygen depletion	23 %	39 d		ECHA
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	DOC removal	38 %	28 d		ECHA
hexamethylene-di-isocyanate	822-06-0	oxygen depletion	42 %	28 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
HDI oligomers, uretdione		457	6.62	
dibutyltin dilaurate	77-58-7		4.44 (20.8 °C)	
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5	<9.7	2.37 (pH value: 7, 25 °C)	
hexamethylene-di-isocyanate	822-06-0	59.6	3.2	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations**13.1 Waste treatment methods****Sewage disposal-relevant information**

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

- | | |
|---|--|
| 14.1 UN number or ID number | not assigned |
| 14.2 UN proper shipping name | not assigned |
| 14.3 Transport hazard class(es) | none |
| 14.4 Packing group | not assigned |
| 14.5 Environmental hazards | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user | Provisions for dangerous goods (ADR) should be complied within the premises. |
| 14.7 Maritime transport in bulk according to IMO instruments | The cargo is not intended to be carried in bulk. |

Information for each of the UN Model Regulations**Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information**

not assigned

International Maritime Dangerous Goods Code (IMDG) - Additional information

not assigned

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

not assigned

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Relevant provisions of the European Union (EU)****Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)**

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

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Water Framework Directive (WFD)

List of pollutants (WFD)			
Name of substance	CAS No	Listed in	Remarks
dibutyltin dilaurate		a)	
dibutyltin dilaurate		a)	
dibutyltin dilaurate		a)	

Legend

A) Indicative list of the main pollutants

Regulation concerning the export and import of hazardous chemicals (PIC)

Chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	CAS No	Category / subcategory	Use limitation
dibutyltin dilaurate	77-58-7	i(2)	sr

Legend

i(2) Sub-category: i(2) - industrial chemical for public use
sr Use limitation: severe restriction (for the sub-category or sub-categories concerned) according to Union legislation

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National inventories

Country	Inventory	Status
EU	REACH Reg.	not all ingredients are listed

Legend

REACH Reg. REACH registered substances

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand

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Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
log KOW	n-Octanol/water
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitisation
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin

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Abbr.	Descriptions of used abbreviations
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H360	May damage fertility or the unborn child.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.