

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 41 (replaces version 40)

Revision: 14.11.2023

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

· **1.1 Product identifier**

· **Product name: Vario PAN Indicator Solution 0.1%**

· **Catalog number:** 530630, 4530630, 424451, 530630-0, 530631, 530632

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

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Repr. 1B H360D May damage the unborn child.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

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2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS02 GHS05 GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:

N,N-dimethylformamide
Octylphenol polyethoxyethanol

Hazard statements

H226 Flammable liquid and vapour.
H318 Causes serious eye damage.
H360D May damage the unborn child.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection.
P201 Obtain special instructions before use.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.

Additional information:

Restricted to professional users.

2.3 Other hazards

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

CAS: 9036-19-5	Octylphenol polyethoxyethanol	List I	5-<10%
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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: aqueous solution

Dangerous components:

CAS: 68-12-2 EINECS: 200-679-5 Index No: 616-001-00-X Reg.nr.: 01-2119475605-32-XXXX	N,N-dimethylformamide ⚠ Flam. Liq. 3, H226; ⚠ Repr. 1B, H360D; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	40-50%
CAS: 9036-19-5 EINECS: 264-520-1	Octylphenol polyethoxyethanol ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1); ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	5-<10%

SVHC

CAS 9036-19-5: Polymer of ethylene glycol and (1,1,3,3-tetramethylbutyl)phenol

CAS: 68-12-2	N,N-dimethylformamide
CAS: 9036-19-5	Octylphenol polyethoxyethanol

SVHC (UK)

CAS: 68-12-2	N,N-dimethylformamide
CAS: 9036-19-5	Octylphenol polyethoxyethanol

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 · **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air or oxygen; call for doctor.
- **After skin contact**
Instantly rinse with water.
Seek medical treatment.
- **After eye contact** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment.

· 4.2 Most important symptoms and effects, both acute and delayed:

burns

after inhalation:

mucous membrane irritation

drowsiness

dizziness

after swallowing:

headache

sickness

vomiting

diarrhoea

cramps

- **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.
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SECTION 5: Firefighting measures

· 5.1 Extinguishing media

- **Suitable extinguishing agents** Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder

· **For safety reasons unsuitable extinguishing agents**

For this substance / mixture no limitations of extinguishing agents are given.

· 5.2 Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures.

combustible

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

nitrous gases

Nitrogen oxides (NO_x)

dimethylamine

· 5.3 Advice for firefighters

· **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

· **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

- **Advice for emergency responders:** Protective equipment: see section 8

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

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Prevent material from reaching sewage system, holes and cellars.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling:

Open and handle container with care.

Ensure good ventilation/exhaustion at the workplace.

Protect from heat.

Keep ignition sources away - Do not smoke.

Hygiene measures:

Do not inhale gases / fumes / aerosols.

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

Store protective clothing separately.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and containers: Store in cool location.

Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

Recommended storage temperature: 20°C +/- 5°C

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
CAS: 68-12-2 N,N-dimethylformamide

WEL (Great Britain)	Short-term value: 30 mg/m ³ , 10 ppm Long-term value: 15 mg/m ³ , 5 ppm Sk
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BOELV (European Union)	Short-term value: 30 mg/m ³ , 10 ppm Long-term value: 15 mg/m ³ , 5 ppm Skin
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IOELV (European Union)	Short-term value: 30 mg/m ³ , 10 ppm Long-term value: 15 mg/m ³ , 5 ppm Skin
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Regulatory information

WEL (Great Britain): EH40/2020

BOELV (European Union): EU 2022/431

IOELV (European Union): (EU) 2019/1831

DNELs

Derived No Effect Level (DNEL)

CAS: 68-12-2 N,N-dimethylformamide

Dermal	DNEL	1.1 mg/kg /d (Worker / long-term /systemic effects) REACH Annex XVII entry 76
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Inhalative	DNEL	6 mg/m ³ (Worker / long-term /systemic effects) REACH Annex XVII entry 76
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Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

PNECs

Predicted No Effect Concentration (PNEC)

CAS: 68-12-2 N,N-dimethylformamide

PNEC	123 mg/l (Sewage treatment plant)
	3 mg/l (Marine water)
	30 mg/l (Aquatic intermittent release)
PNEC	30 mg/l (Fresh water)
	16.25 mg/kg (Soil)
	25.05 mg/kg (Fresh water sediment)

· **Additional information:** The lists that were valid during the compilation were used as basis.

8.2 Exposure controls
Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Eye/face protection** Tightly sealed safety glasses.

Hand protection

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.5 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Other skin protection (body protection):** Protective work clothing.

· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

· **Recommended filter device for short term use:** Combination filter A-P2

Environmental exposure controls

Do not allow product to reach sewage system or water bodies.

Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

· Physical state	Fluid
· Form:	Solution
· Colour:	Dark orange
· Odour:	Amine-like
· Odour threshold:	CAS 68-12-2: 0.329 ppm
· Melting point/Freezing point:	Not determined.
· Boiling point or initial boiling point and boiling range	~100°C
· Flammability	Flammable liquid and vapour.
· Explosive properties:	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
· Lower and upper explosion limit	
Lower:	2.2 Vol % (CAS: 68-12-2 N,N-dimethylformamide)
Upper:	16 Vol % (CAS: 68-12-2 N,N-dimethylformamide)
· Flash point:	58°C (DIN EN ISO 2719, CAS: 68-12-2 N,N-dimethylformamide)
· Auto-ignition temperature:	Not determined.

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· Decomposition temperature:	Not determined.
· pH at 20°C	8
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20°C:	1.05 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	< 20 %
· Solvent content:	
· Organic solvents:	< 50 %
· Water:	< 30 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Fumes can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Flammable vapour-air mixtures may develop.
Reacts with reducing agents
Reacts with oxidizing agents
Reacts with halogenated compounds
Violent reactions possible with:
chlorine
nitrates
- **10.4 Conditions to avoid** Heating.
- **10.5 Incompatible materials:**
alkali metals
copper
various plastics
- **10.6 Hazardous decomposition products:**
formaldehyde
Ammonia (NH₃)
In case of fire: see section 5.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:		
CAS: 68-12-2 N,N-dimethylformamide		
Oral	LD50	2800 mg/kg (rat) (RTECS)
Dermal	LD50	1500 mg/kg (rabbit) (IUCLID)
Inhalative	LC50/4h	11 mg/l (ATE)
CAS: 9036-19-5 Octylphenol polyethoxyethanol		
Oral	LD50	1900–5000 mg/kg (rat)

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Dermal	LD50	>3000 mg/kg (rabbit)
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- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

- **Serious eye damage/irritation**

Causes serious eye damage.

Risk of corneal clouding.

- **Information on components:**

CAS: 9036-19-5 Octylphenol polyethoxyethanol

Irritation of skin	OECD 404	(rabbit: irritation) (ECHA: read across CAS 140-66-9)
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- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

- **Information on components:**

CAS: 9036-19-5 Octylphenol polyethoxyethanol

Sensitisation	Patch test (human)	(negative)
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- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Carcinogenicity** Based on available data, the classification criteria are not met.

- **Reproductive toxicity** May damage the unborn child.

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Information on likely routes of exposure**

Main routes of absorption for N,N-dimethylformamide (DMF) are via the respiratory tract and the skin.[GESTIS]

- **Additional toxicological information:**

CAS 68-12-2: Danger by skin resorption.

CAS: 68-12-2 N,N-dimethylformamide

(source: GESTIS)	Acute: irritant effect of the liquid on the eyes or concentrated vapours on the mucous membranes of the respiratory tract; gastrointestinal complaints, CNS and circulatory disorders, liver function changes to damage; alcohol intolerance Chronic: ditto, additionally inflammatory skin changes [GESTIS].
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- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

CAS: 9036-19-5	Octylphenol polyethoxyethanol	List I	5-<10%
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- **Other information**

Other dangerous properties can not be excluded.

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

CAS: 68-12-2 N,N-dimethylformamide

EC50	13100 mg/l/48h (Daphnia magna) (Merck)
LC50	7100 mg/l/96h (bluegill) (Merck / US-EPA)

CAS: 9036-19-5 Octylphenol polyethoxyethanol

EC50 (static)	0.011 mg/l/48h (Daphnia magna) (ECHA: read across CAS 140-66-9)
EC50	1.9 mg/l/96h (Pseudokirchneriella subcapitata) (ECHA: read across CAS 140-66-9)
NOEC	0.012 mg/l (zebrafish) (OECD 210) (ECHA: read across CAS 140-66-9)

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LC50	0.03 mg/l (Daphnia magna) (OECD 202, 21d) (ECHA: read across CAS 140-66-9) 0.26 mg/l/96h (gold orfe) (OECD 203) (ECHA: read across CAS 140-66-9) 4–8.9 mg/l/96h (fathead minnow) (Merck)
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12.2 Persistence and degradability
CAS: 68-12-2 N,N-dimethylformamide

OECD 301 E 100 % / 21 d, anerob (readily biodegradable) (Modified OECD Screening Test)

CAS: 9036-19-5 Octylphenol polyethoxyethanol

OECD 301 C 22 % / 28 d (not readily biodegradable) (aerob)

12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 68-12-2 N,N-dimethylformamide

log Pow -0.85 (.)

CAS: 9036-19-5 Octylphenol polyethoxyethanol

log Pow 2.7 (.) (calculated)

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects Avoid transfer into the environment.

Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

European waste catalogue

16 05 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN number or ID number
ADR, IMDG, IATA UN1993

14.2 UN proper shipping name

ADR	1993 FLAMMABLE LIQUID, N.O.S. (N,N-DIMETHYLFORMAMIDE), ENVIRONMENTALLY HAZARDOUS
IMDG	FLAMMABLE LIQUID, N.O.S. (N,N-DIMETHYLFORMAMIDE), MARINE POLLUTANT
IATA	FLAMMABLE LIQUID, N.O.S. (N,N-DIMETHYLFORMAMIDE)

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<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR 	
 	
<ul style="list-style-type: none"> · Class · Label 	3 (F1) Flammable liquids. 3
<ul style="list-style-type: none"> · IMDG 	
 	
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids. 3
<ul style="list-style-type: none"> · IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids. 3
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	
	III
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR): 	
	Product contains environmentally hazardous substances: Octylphenol polyethoxyethanol Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Kemler Number: · EMS Number: · Stowage Category 	
	Warning: Flammable liquids. 30 F-E, <u>S</u> -E A
<ul style="list-style-type: none"> · 14.7 Maritime transport in bulk according to IMO instruments 	
	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) 	
	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	3 D/E
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	
	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

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SECTION 15: Regulatory information

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

· Poisons Act UK

· Regulated explosives precursors

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

CAS: 9036-19-5 | Octylphenol polyethoxyethanol

· Substances of very high concern (SVHC) according to REACH, Article 57 see item 3 SVHC

· Substances of very high concern (SVHC) according to UK REACH see item 3 SVHC

· Directive 2012/18/EU (SEVESO III):

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· Seveso category

E1 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

· Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 30, 72, 76

· Information about limitation of use:

Employment restrictions concerning young persons must be observed (94/33/EC).

Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC).

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· Training hints Provide adequate information, instruction and training for operators.

· Relevant phrases

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

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H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H360D May damage the unborn child.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

c.c.: closed cup

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· **Sources**

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

GESTIS- Stoffdatenbank (Substance Database, Germany)

· *** Data compared to the previous version altered.**