VAR NL-77400 - HIGH STRENGTH THREADLOCKER

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Reference number: 01-005-504
Issue date: 25/05/2010 Revision date: 03/05/2022 Supersedes version of: 01/06/2021 Version: 8.1

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

1.1. Product identifier

Product form : Mixture
Product name : VAR NL-77400 - HIGH STRENGTH THREADLOCKER
UFI : XSFC-W38C-Y40Y-VHA0
Product code : NL-77400
Type of product : adhesives

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

1.2.1. Relevant identified uses

Main use category : Industrial use
Use of the substance/mixture : Anaerobic thread locking compound based on methacrylates
Use of the substance/mixture : Adhesives, sealants
Function or use category : Adhesives, binding agents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Distributor
VAR SAS
19 Avenue Gustave Eiffel
Lot D6 Espace Eiffel
28630 Gellainville - FRANCE
T +33 (0)2 33 33 37 10
contact@vartools.com

1.4. Emergency telephone number

Emergency number : ORFILA (INRS) +33 (0)1 45 42 59 59

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May cause respiratory irritation. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS07

Signal word (CLP) : Warning

Contains : Triethyleneglycol Dimethacrylate, Hydroxypropyl Methacrylate, Acrylic Acid, α,α-dimethylbenzyl hydroperoxide, Reaction Mass Of 2,2'-[(4-Methylphenyl)Imino]Bisethanol And Ethanol 2-[[2-(2-Hydroxyethoxy)Ethyl](4-Methylphenyl)Amino]-

Hazard statements (CLP) : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P261 - Avoid breathing vapours.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear eye protection, protective gloves.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P273 - Avoid release to the environment.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Hydroxypropyl Methacrylate (27813-02-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Acrylic Acid (79-10-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
N,N-dimethyl-p-toluidine (99-97-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Triethyleneglycol Dimethacrylate	CAS-No.: 109-16-0 EC-No.: 203-652-6 REACH-no: 01-2119969287-21	≥ 45 – < 60	Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Hydroxypropyl Methacrylate	CAS-No.: 27813-02-1 EC-No.: 248-666-3 REACH-no: 01-2119490226-37	≥ 3 – < 8	Eye Irrit. 2, H319 Skin Sens. 1, H317
Acrylic Acid substance with a Community workplace exposure limit	CAS-No.: 79-10-7 EC-No.: 201-177-9 EC Index-No.: 607-061-00-8 REACH-no: 01-2119452449-31	≥ 1 – < 3	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314 Aquatic Acute 1, H400
α,α-dimethylbenzyl hydroperoxide	CAS-No.: 80-15-9 EC-No.: 201-254-7 EC Index-No.: 617-002-00-8 REACH-no: 01-211947596-19	≥ 1 – < 3	Org. Perox. E, H242 Acute Tox. 3 (Inhalation), H331 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 STOT RE 2, H373 Skin Corr. 1B, H314 Aquatic Chronic 2, H411
N,N-dimethyl-p-toluidine	CAS-No.: 99-97-8 EC-No.: 202-805-4 EC Index-No.: 612-056-00-9 REACH-no: 01-2119956633-31	>0.1 - <1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT RE 2, H373 Aquatic Chronic 3, H412
2'-Phenylacetohydrazide	CAS-No.: 114-83-0 EC-No.: 204-055-3 REACH-no: EXEMPT <1T	>0.1 - <1	Acute Tox. 3 (Oral), H301
Reaction Mass Of 2,2'-[(4-Methylphenyl)Imino]Bisethanol And Ethanol 2-[[2-(2-Hydroxyethoxy)Ethyl](4-Methylphenyl)Amino]-	EC-No.: 911-490-9 REACH-no: 01-2119979579-10	>0.01 - <0.1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Acrylic Acid	CAS-No.: 79-10-7 EC-No.: 201-177-9 EC Index-No.: 607-061-00-8 REACH-no: 01-2119452449-31	(1 ≤C ≤ 100) STOT SE 3, H335
α,α-dimethylbenzyl hydroperoxide	CAS-No.: 80-15-9 EC-No.: 201-254-7 EC Index-No.: 617-002-00-8 REACH-no: 01-211947596-19	(0 <C < 10) STOT SE 3, H335 (1 ≤C < 3) Eye Irrit. 2, H319 (3 ≤C < 10) Skin Irrit. 2, H315 (3 ≤C < 10) Eye Dam. 1, H318 (5 ≤C < 100) Org. Perox. E, H242 (10 ≤C ≤ 100) Skin Corr. 1B, H314

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Move the affected person away from the contaminated area and into the fresh air. If symptoms persist, consult a doctor.

First-aid measures after skin contact : Remove all contaminated clothing and footwear. Wash immediately with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water (for at least 15 minutes). Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. Drink plenty of water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : May cause an allergic skin reaction.

Symptoms/effects after inhalation : May cause shortness of breath, tightness of the chest, a sore throat and cough.

Symptoms/effects after skin contact : skin irritation and erythema. Allergic skin rash.

Symptoms/effects after eye contact : Eye irritation. redness, itching, tears.

Symptoms/effects after ingestion : Causes irritation of the mouth and throat. Abdominal pain, nausea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. An eyewash station should be available on the premises.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).

Unsuitable extinguishing media : high volume water jet or water based extinguishing media.

5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire : Polymerises on exposure to temperature rise: pressure build-up may cause closed container to burst.

Hazardous decomposition products in case of fire : Combustion products may include the following: carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO_2 etc.).

5.3. Advice for firefighters

Firefighting instructions : Avoid contact with skin and eyes. Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Clean up any spills as soon as possible, using an absorbent material to collect it. Scoop absorbed substance into closing containers.

6.1.1. For non-emergency personnel

Protective equipment : Chemical resistant gloves (according to European standard EN 374 or equivalent).

Emergency procedures : Avoid breathing vapours. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Mark out the contaminated area with signs and prevent access to unauthorized personnel. Keep people away from and upwind of spill/leak. Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter drains or water courses.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.

Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure that there is a suitable ventilation system. Do not handle in a confined space. Avoid breathing vapours. Avoid contact with skin and eyes. Wear personal protective equipment. Do not wear protective gloves made from PVC as these absorb (meth)acrylates.

Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store in original container. Keep container tightly closed. Keep cool. IMPORTANT - if stored in bulk, product must be kept in contact with air to aid stabilisation.

Incompatible products : Strong acids. Strong oxidizing agents. Copper and its alloys. free radical initiators.

Incompatible materials : Heat sources. Direct sunlight. Metals. Sources of ignition.

Storage temperature : < 30 °C

Packaging materials : Always store product in a container of the same material as original container.

7.3. Specific end use(s)

adhesives.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Acrylic Acid (79-10-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	29 mg/m³
IOEL TWA [ppm]	10 ppm
IOEL STEL	59 mg/m³ (Short-term exposure limit value in relation to a reference period of 1 minute.)
IOEL STEL [ppm]	20 ppm
Ireland - Occupational Exposure Limits	
Local name	Acrylic acid
OEL TWA [1]	29 mg/m³
OEL TWA [2]	10 ppm

Acrylic Acid (79-10-7)	
OEL STEL	59 mg/m³ for a 1 minute reference period
OEL STEL [ppm]	20 ppm for a 1 minute reference period
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
United Kingdom - Occupational Exposure Limits	
Local name	Acrylic acid (Prop-2-enoic acid)
WEL TWA (OEL TWA) [1]	30 mg/m³
WEL TWA (OEL TWA) [2]	10 ppm
WEL STEL (OEL STEL)	60 mg/m³
WEL STEL (OEL STEL) [ppm]	20 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station. See Section 7 for information on safe handling.

8.2.2. Personal protection equipment

Personal protective equipment:
Safety glasses. Gloves.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Droplet	With side shields	EN 166

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves. Do not wear protective gloves made from PVC as these absorb (meth)acrylates.

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Reusable gloves	Nitrile rubber (NBR), Viton® II, Fluoroelastomer (FKM)	5 (> 240 minutes)	>0.3		EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
Reusable half mask	Type A - High-boiling (>65 °C) organic compounds	If conc. in air > exposure limit	EN 405, EN 14387

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Do not discharge into drains or the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Green.
Appearance	:	Viscous. Liquid.
Odour	:	Characteristic pungent odour.
Odour threshold	:	Not available
Melting point	:	Not established
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not applicable
Explosive properties	:	Product is not explosive.
Oxidising properties	:	Not oxidising.
Explosive limits	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	> 100 °C
Auto-ignition temperature	:	Not established
Decomposition temperature	:	Not available
pH	:	~5
Viscosity, kinematic	:	480 mm²/s (calculated value)
Viscosity, dynamic	:	500 cP Anton Paar cone and plate, controlled stress rheometer
Solubility	:	Insoluble in water. Soluble in acetone.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	≈ 0.1 mm Hg @20°C
Vapour pressure at 50 °C	:	Not available
Density	:	Not available
Relative density	:	≈ 1.04
Relative vapour density at 20 °C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Polymerises on exposure to temperature rise: pressure build-up may cause closed container to burst.

10.4. Conditions to avoid

High temperature. Heat. Direct sunlight.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. free radical initiators.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Combustion products may include the following: carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO_2 etc.).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Triethyleneglycol Dimethacrylate (109-16-0)	
LD50 oral rat	10837 mg/kg
LD50 dermal	> 2000 mg/kg

Hydroxypropyl Methacrylate (27813-02-1)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 oral	7964 mg/kg
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Animal sex: male
LD50 dermal	> 5000 mg/kg

Acrylic Acid (79-10-7)	
LD50 oral rat	1000 – 2000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

α,α-dimethylbenzyl hydroperoxide (80-15-9)	
LD50 oral rat	382 mg/kg

N,N-dimethyl-p-toluidine (99-97-8)	
LD50 oral rat	1650 mg/kg bodyweight Equivalent to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s)
LD50 oral	139 mg/kg bodyweight LD50 oral mouse
LD50 dermal rabbit	> 2000 mg/kg bodyweight (24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	1.4 mg/l Animal: rat, OECD Guideline 403: (Acute Inhalation Toxicity)
LC50 Inhalation - Rat (Dust/Mist)	1.4 mg/l/4h Experimental value

2'-Phenylacetohydrazide (114-83-0)	
LD50 oral	270 mg/kg bodyweight mouse

Reaction Mass Of 2,2'-[(4-Methylphenyl)Imino]Bisethanol And Ethanol 2-[[2-(2-Hydroxyethoxy)Ethyl](4-Methylphenyl)Amino]-	
LD50 oral rat	619 mg/kg
LD50 dermal	> 2000 mg/kg

Skin corrosion/irritation : Causes skin irritation.
pH: ~5

Serious eye damage/irritation : Causes serious eye irritation.
pH: ~5

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

N,N-dimethyl-p-toluidine (99-97-8)	
AMES test	S. typhimurium: Result, Negative

Carcinogenicity : Not classified

N,N-dimethyl-p-toluidine (99-97-8)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

Hydroxypropyl Methacrylate (27813-02-1)	
NOAEL (animal/male, F0/P)	300 mg/kg bodyweight
NOAEL (animal/female, F0/P)	300 mg/kg bodyweight
NOAEL (animal/male, F1)	≥ 1000 mg/kg bodyweight
NOAEL (animal/female, F1)	≥ 1000 mg/kg bodyweight

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Triethyleneglycol Dimethacrylate (109-16-0)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Hydroxypropyl Methacrylate (27813-02-1)	
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Acrylic Acid (79-10-7)	
NOAEL (oral, rat, 90 days)	40 – 375 mg/kg bodyweight/day

α,α-dimethylbenzyl hydroperoxide (80-15-9)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

N,N-dimethyl-p-toluidine (99-97-8)	
STOT-repeated exposure	May cause damage to organs (blood system) through prolonged or repeated exposure (inhalation).

Aspiration hazard : Not classified

VAR NL-77400 - HIGH STRENGTH THREADLOCKER	
Viscosity, kinematic	480 mm²/s (calculated value)

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short–term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long–term (chronic) : Harmful to aquatic life with long lasting effects.

Triethyleneglycol Dimethacrylate (109-16-0)	
LC50 - Fish [1]	16.4 mg/l
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	72.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	100 mg/l species: Daphnia magna Duration: '21 d'
NOEC (chronic)	32 mg/l species: Daphnia magna Duration: '21 d'

Hydroxypropyl Methacrylate (27813-02-1)	
LC50 - Fish [1]	> 493 mg/l DIN 38412: Pt1
EC50 - Crustacea [1]	> 143 mg/l species: Daphnia magna
EC50 72h - Algae [1]	> 97.2 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	> 97.2 mg/l OECD 201: 72 h Pseudokirchneriella subcapitata (Green Algae)
NOEC (chronic)	45.2 mg/l Species: Daphnia magna Duration: '21 d'
NOEC chronic crustacea	45.2 mg/l
NOEC chronic algae	97.2 mg/l

Acrylic Acid (79-10-7)	
LC50 - Fish [1]	27 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	95 mg/l Species: Daphnia magna

Acrylic Acid (79-10-7)	
ErC50 algae	0.13 mg/l EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Weight of evidence, Nominal concentration
LOEC (chronic)	8.1 mg/l Species: Daphnia magna Duration: '21 d'

α,α-dimethylbenzyl hydroperoxide (80-15-9)	
LC50 - Fish [1]	3.9 mg/l

N,N-dimethyl-p-toluidine (99-97-8)	
LC50 - Fish [1]	46 mg/l Test organisms (species): Fathead minnow (Pimephales promelas)
EC50 72h - Algae [1]	24.3 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Reaction Mass Of 2,2'-[(4-Methylphenyl)Imino]Bisethanol And Ethanol 2-[[2-(2-Hydroxyethoxy)Ethyl](4-Methylphenyl)Amino]-	
LC50 - Fish [1]	> 100 mg/l
EC50 - Other aquatic organisms [1]	48 mg/l

12.2. Persistence and degradability

VAR NL-77400 - HIGH STRENGTH THREADLOCKER	
Persistence and degradability	Readily biodegradable.

Triethyleneglycol Dimethacrylate (109-16-0)	
Persistence and degradability	Readily biodegradable.
Biodegradation	≈ 75 %

Hydroxypropyl Methacrylate (27813-02-1)	
Persistence and degradability	> 80 % biodegradation.
Biodegradation	> 80 %

Acrylic Acid (79-10-7)	
Persistence and degradability	Readily biodegradable in water. easily degradable in the soil.

N,N-dimethyl-p-toluidine (99-97-8)	
Persistence and degradability	Not readily biodegradable in water.

2'-Phenylacetohydrazide (114-83-0)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

Triethyleneglycol Dimethacrylate (109-16-0)	
Bioaccumulative potential	No bioaccumulation potential.

Hydroxypropyl Methacrylate (27813-02-1)	
Partition coefficient n-octanol/water (Log Pow)	0.97 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 23 °C)
Bioaccumulative potential	Low bioaccumulation potential.

Acrylic Acid (79-10-7)	
BCF - Fish [1]	3.162 (estimated value)

Acrylic Acid (79-10-7)	
Partition coefficient n-octanol/water (Log Pow)	0.46 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 23 °C)
Bioaccumulative potential	Low bioaccumulation potential. BCF. <500.

N,N-dimethyl-p-toluidine (99-97-8)	
BCF - Fish [1]	33 (EPA OTS 797.1520)
Partition coefficient n-octanol/water (Log Pow)	1.729 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): 35 °C)
Bioaccumulative potential	Low bioaccumulation potential. BCF. <500.

2'-Phenylacetohydrazide (114-83-0)	
Bioaccumulative potential	No bioaccumulation data available. Lack of data.

12.4. Mobility in soil

Triethyleneglycol Dimethacrylate (109-16-0)	
Ecology - soil	Product adsorbs onto the soil. The liquid is heavier than water. Not volatile.

Hydroxypropyl Methacrylate (27813-02-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.9 (calculated value)

Acrylic Acid (79-10-7)	
Surface tension	69.9 mN/m (20 °C, 1 g/l)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.78 – 2.14
Ecology - soil	Low potential for absorption in soil.

N,N-dimethyl-p-toluidine (99-97-8)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.1 (calculated value)
Ecology - soil	Potential for mobility in soil is slight.

2'-Phenylacetohydrazide (114-83-0)	
Ecology - soil	No specific data.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not applicable	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not applicable	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not applicable	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not applicable	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Dangerous for the environment: No	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
No data available

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(a)	Acrylic Acid ; α,α-dimethylbenzyl hydroperoxide	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	VAR NL-77400 - HIGH STRENGTH THREADLOCKER ; Triethyleneglycol Dimethacrylate ; Hydroxypropyl Methacrylate ; Acrylic Acid ; α,α-dimethylbenzyl hydroperoxide ; N,N-dimethyl-p-toluidine ; Reaction Mass Of 2,2'-[(4-Methylphenyl)Imino]Bisethanol And Ethanol 2-[[2-(2-Hydroxyethoxy)Ethyl](4-Methylphenyl)Amino]-	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	VAR NL-77400 - HIGH STRENGTH THREADLOCKER ; Triethyleneglycol Dimethacrylate ; Acrylic Acid ; α,α-dimethylbenzyl hydroperoxide ; N,N-dimethyl-p-toluidine ; Reaction Mass Of 2,2'-[(4-Methylphenyl)Imino]Bisethanol And Ethanol 2-[[2-(2-Hydroxyethoxy)Ethyl](4-Methylphenyl)Amino]-	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
40.	Acrylic Acid	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
	Supersedes version of	Modified	
	Revision date	Modified	
1.2	Use of the substance/mixture	Modified	
1.2	Use of the substance/mixture	Modified	
1.2	Function or use category	Added	
2.3	Other hazards which do not result in classification	Added	
3	Composition/information on ingredients	Modified	
7.2	Storage temperature	Added	
15.1	REACH Annex XVII	Added	
16	Data sources	Added	

Abbreviations and acronyms:	
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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic

Abbreviations and acronyms:	
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Data sources : Supplier's safety documents. ECHA (European Chemicals Agency). UNECE, http://www.unece.org/.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.

Full text of H- and EUH-statements:	
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Org. Perox. E	Organic Peroxides, Type E
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.