SAFETY DATA SHEET

PENTOPROTECT TL 2040-00 - All variants

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

1.1 Product identifier

Product name : PENTOPROTECT TL 2040-00 - All variants

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

e-mail address of person responsible for this SDS : Prod-safe@teknos.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Skin Sens. 1, H317
Aquatic Acute 1, H400
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 - May cause an allergic skin reaction.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear protective gloves.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.

Response : P391 - Collect spillage.
P362 + P364 - Take off contaminated clothing and wash it before reuse.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Contains: 1,2-benzisothiazol-3(2H)-one; 4,5-dichloro-2-octyl-2H-isothiazol-3-one and 2-Octyl-2H-isothiazol-3-one

SECTION 2: Hazards identification

Supplemental label elements :

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
1,2-benzisothiazol-3(2H)-one	EC: 220-120-9 CAS: 2634-33-5 Index: 613-088-00-6	<0.1	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 450 mg/kg ATE [Inhalation (dusts and mists)] = 0.21 mg/l Skin Sens. 1, H317: C ≥ 0.036% M [Acute] = 1 M [Chronic] = 1	[1]
pyrithione zinc	REACH #: 01-2119511196-46 EC: 236-671-3 CAS: 13463-41-7 Index: 613-333-00-7	≤0.097	Acute Tox. 3, H301 Acute Tox. 2, H330 Eye Dam. 1, H318 Repr. 1B, H360D STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 221 mg/kg ATE [Inhalation (dusts and mists)] = 0.14 mg/l M [Acute] = 1000 M [Chronic] = 10	[1]
3-iodo-2-propynyl-butyl carbamate	EC: 259-627-5 CAS: 55406-53-6 Index: 616-212-00-7	≤0.075	Acute Tox. 4, H302 Acute Tox. 2, H330 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 1, H372 (larynx) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 400 mg/kg ATE [Inhalation (dusts and mists)] = 0.17 mg/l M [Acute] = 10 M [Chronic] = 10	[1]
4,5-dichloro-2-octyl-2H-isothiazol-3-one	EC: 264-843-8 CAS: 64359-81-5 Index: 613-335-00-8	≤0.0077	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 EUH071	ATE [Oral] = 567 mg/kg ATE [Inhalation (dusts and mists)] = 0.16 mg/l Skin Corr. 1, H314: C ≥ 5% Skin Irrit. 2, H315: 0.025% ≤ C < 5% Eye Dam. 1, H318: C ≥ 3%	[1]

SECTION 3: Composition/information on ingredients

				Eye Irrit. 2, H319: 0.025% ≤ C < 3% Skin Sens. 1, H317: C ≥ 0.0015% M [Acute] = 100 M [Chronic] = 100	
2-Octyl-2H-isothiazol-3-one	EC: 247-761-7 CAS: 26530-20-1 Index: 613-112-00-5	<0.001	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 EUH071	ATE [Oral] = 125 mg/kg ATE [Dermal] = 311 mg/kg ATE [Inhalation (dusts and mists)] = 0.27 mg/l Skin Sens. 1, H317: C ≥ 0.0015% M [Acute] = 100 M [Chronic] = 100	[1]

Type

[1] Substance classified with a health or environmental hazard

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

SECTION 4: First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : No specific data.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E1	100 tonnes	200 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
1,2-benzisothiazol-3(2H)-one	**Regulation on Limit Values - MAC (Austria, 12/2025)** Skin sensitiser.
2-Octyl-2H-isothiazol-3-one	**Regulation on Limit Values - MAC (Austria, 12/2025)** Absorbed through skin , Sensitiser. TWA 8 hours: 0.05 mg/m³. Form: Inhalable fraction. CEIL: 0.05 mg/m³. Form: Inhalable fraction.
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
1,2-benzisothiazol-3(2H)-one	**DFG MAC-values list (Germany, 7/2025)** Skin sensitiser.
pyrithione zinc	**DFG MAC-values list (Germany, 7/2025)** Absorbed through skin.
3-iodo-2-propynyl-butyl carbamate	**TRGS 900 OEL (Germany, 12/2025)** Skin sensitiser. PEAK 15 minutes: 0.116 mg/m³. PEAK 15 minutes: 0.01 ppm. TWA 8 hours: 0.058 mg/m³. TWA 8 hours: 0.005 ppm. **DFG MAC-values list (Germany, 7/2025)** Develop C. Skin sensitiser. PEAK 15 minutes: 0.116 mg/m³ 4 times per shift [Interval: 1 hour]. PEAK 15 minutes: 0.01 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 0.058 mg/m³. TWA 8 hours: 0.005 ppm.
2-Octyl-2H-isothiazol-3-one	**TRGS 900 OEL (Germany, 12/2025)** Absorbed through skin. TWA 8 hours: 0.05 mg/m³. Form: Inhalable fraction. PEAK 15 minutes: 0.1 mg/m³. Form: Inhalable fraction. **DFG MAC-values list (Germany, 7/2025)** Develop C. Absorbed through skin , Skin sensitiser. TWA 8 hours: 0.05 mg/m³. Form: inhalable fraction. PEAK 15 minutes: 0.1 mg/m³ 4 times per shift [Interval: 1 hour]. Form: inhalable fraction.
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
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No exposure limit value known.	
pyrithione zinc	**Government regulation SR c. 355/2006 (Slovakia, 6/2024) [zinok a jeho anorganické zlúčeniny]** Inhalation sensitiser. TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction. TWA 8 hours: 2 mg/m³. Form: Inhalable fraction.
3-iodo-2-propynyl-butyl carbamate	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** KTV 15 minutes: 0.01 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. TWA 8 hours: 0.005 ppm. KTV 15 minutes: 0.116 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. TWA 8 hours: 0.058 mg/m³.
2-Octyl-2H-isothiazol-3-one	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** Absorbed through skin. TWA 8 hours: 0.05 mg/m³. Form: Inhalable fraction. KTV 15 minutes: 0.1 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. Form: Inhalable fraction.
No exposure limit value known.	
No exposure limit value known.	
3-iodo-2-propynyl-butyl carbamate	**SUVA (Switzerland, 1/2026)** Sensitiser. STEL 15 minutes: 0.24 mg/m³. Form: vapour and aerosols. STEL 15 minutes: 0.02 ppm. Form: vapour and aerosols. TWA 8 hours: 0.01 ppm. Form: vapour and aerosols. TWA 8 hours: 0.12 mg/m³. Form: vapour and aerosols.
2-Octyl-2H-isothiazol-3-one	**SUVA (Switzerland, 1/2026)** Absorbed through skin , Sensitiser. TWA 8 hours: 0.05 mg/m³. Form: Inhalable fraction. STEL 15 minutes: 0.1 mg/m³. Form: Inhalable fraction.
No exposure limit value known.	

Biological exposure indices

Product/ingredient name	Exposure indices
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
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No exposure indices known.	
No exposure indices known.	

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Result
1,2-benzisothiazol-3(2H)-one	**DNEL - General population - Long term - Dermal** 0.345 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.966 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 1.2 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 6.81 mg/m³ Effects: Systemic
pyrithione zinc	**DNEL - Workers - Long term - Dermal** 0.01 mg/kg bw/day Effects: Systemic
3-iodo-2-propynyl-butyl carbamate	**DNEL - Workers - Long term - Inhalation** 0.023 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 0.07 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 1.16 mg/m³ Effects: Local

DNEL - Workers - Long term - Inhalation
1.16 mg/m³
Effects: Local

DNEL - Workers - Long term - Dermal
2 mg/kg bw/day
Effects: Systemic

PNECs

Not available.

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Recommendations : Wear suitable gloves tested to EN374.

> 8 hours (breakthrough time):	Nitrile gloves. thickness > 0.3 mm
Not recommended	polyvinyl alcohol (PVA) gloves

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Filter type (spray application): A P

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Various

Odour : Slight

Odour threshold : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range :

Ingredient name	°C	°F	Method
water	100	212	

Flammability : Not available.

Lower and upper explosion limit : Lower: Not applicable.
Upper: Not applicable.

Flash point : Closed cup: >100°C (>212°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

pH : 7 to 9 [Conc. (% w/w): 100%]

Viscosity : Not available.

Solubility(ies) :

Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3				

Relative density : Not available.

Density : 1 g/cm³

Vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Product/ingredient name	Result
1,2-benzisothiazol-3(2H)-one	**Rat - Oral - LD50** 1020 mg/kg
pyrithione zinc	**Rat - Oral - LD50** 177 mg/kg **Rabbit - Dermal - LD50** 100 mg/kg **Rat - Inhalation - LC50 Dusts and mists** 140 mg/m³ [4 hours] Toxic effects: Lung, Thorax, or Respiration - Acute pulmonary edema Lung, Thorax, or Respiration - Dyspnea Gross Metabolite Changes - Weight loss or decreased weight gain
3-iodo-2-propynyl-butyl carbamate	**Rat - Oral - LD50** 400 mg/kg **Rat - Dermal - LD50** >2000 mg/kg **Rat - Inhalation - LC50 Dusts and mists** 0.763 mg/l [4 hours] **Rat - Inhalation - LC50 Dusts and mists** 0.67 g/m³ [4 hours]
4,5-dichloro-2-octyl-2H-isothiazol-3-one	**Rat - Oral - LD50** 1585 mg/kg OECD [Acute Oral Toxicity] **Rabbit - Dermal - LD50** >652 mg/kg OECD [Acute Dermal Toxicity] **Rat - Male, Female - Inhalation - LC50 Dusts and mists** 0.26 mg/l [4 hours] OECD [Acute Inhalation Toxicity]
2-Octyl-2H-isothiazol-3-one	**Rat - Oral - LD50** 550 mg/kg **Rabbit - Dermal - LD50**

690 mg/kg

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
1,2-benzisothiazol-3(2H)-one	450	N/A	N/A	N/A	0.21
pyrithione zinc	221	N/A	N/A	N/A	0.14
3-iodo-2-propynyl-butyl carbamate	400	N/A	N/A	N/A	0.17
4,5-dichloro-2-octyl-2H-isothiazol-3-one	567	N/A	N/A	N/A	0.16
2-Octyl-2H-isothiazol-3-one	125	311	N/A	N/A	0.27

Skin corrosion/irritation

Product/ingredient name	Result
1,2-benzisothiazol-3(2H)-one	**Human - Skin - Mild irritant** Duration of treatment/exposure: 48 hours Amount/concentration applied: 5 %

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result
3-iodo-2-propynyl-butyl carbamate	**Rabbit - Eyes - Severe irritant**
2-Octyl-2H-isothiazol-3-one	**Rabbit - Eyes - Severe irritant** Amount/concentration applied: 100 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name	Result
3-iodo-2-propynyl-butyl carbamate	**Guinea pig - skin** Not sensitizing

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result
3-iodo-2-propynyl-butyl carbamate	**In vitro - Bacteria** Result: Negative

Conclusion/Summary [Product] : Not available.

SECTION 11: Toxicological information

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Product/ingredient name	Result
3-iodo-2-propynyl-butyl carbamate	**Rabbit - Female - Oral** 50 mg/kg [7 days per week] [13 days] Maternal toxicity: Positive Developmental: Negative **Rabbit - Female - Oral** 20 mg/kg [7 days per week] [13 days] Maternal toxicity: Negative Developmental: Negative

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
pyrithione zinc	STOT RE 1, H372
3-iodo-2-propynyl-butyl carbamate	STOT RE 1, H372 (larynx)

Aspiration hazard

Not available.

Information on likely routes of exposure

Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

SECTION 11: Toxicological information

Conclusion/Summary [Product] : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result
1,2-benzisothiazol-3(2H)-one	**Acute - LC50 - Fresh water** OECD [Fish, Acute Toxicity Test] Fish - Trout - *Onorhynchus Mykiss* 1.9 mg/l [96 hours] **Acute - EC50** OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test] Daphnia - Daphnia - *Daphnia Magna* 3.7 mg/l [48 hours] **Acute - EC50 - Marine water** OECD 201 [Alga, Growth Inhibition Test] Algae - Algae - *Skeletonema Costatum* 0.36 mg/l [72 hours] **Acute - NOEC - Marine water** OECD 201 [Alga, Growth Inhibition Test] Algae - Algae - *Skeletonema Costatum* 0.15 mg/l [72 hours]
pyrithione zinc	**Acute - EC50 - Marine water** Algae - Diatom - *Thalassiosira pseudonana* 0.51 µg/l [96 hours] Effect: Population **Chronic - EC10 - Marine water** Algae - Diatom - *Thalassiosira pseudonana* 0.36 µg/l [96 hours] Effect: Population **Chronic - NOEC - Fresh water** US EPA Daphnia - Water flea - *Daphnia magna* 2.7 ppb [21 days] Effect: Growth **Acute - EC50 - Fresh water** US EPA Daphnia - Water flea - *Daphnia magna* Age: <24 hours 8.25 ppb [48 hours]

	Effect: Intoxication **Acute - LC50 - Fresh water** US EPA Fish - Fathead minnow - *Pimephales promelas* Weight: 0.28 g 2.68 ppb [96 hours] Effect: Mortality
3-iodo-2-propynyl-butyl carbamate	**Acute - LC50 - Fresh water** EU Fish - Trout - *Oncorhynchus mykiss* 0.067 mg/l [96 hours] **Acute - NOEC - Fresh water** EU Fish - Trout - *Oncorhynchus mykiss* 0.049 mg/l [96 hours] **Acute - EC50 - Fresh water** EU Daphnia - Daphnia - *Daphnia magna* 0.16 mg/l [48 hours] **Chronic - NOEC - Fresh water** EU Daphnia - Daphnia - *Daphnia Magna* 0.05 mg/l [21 days] **Acute - EC50 - Fresh water** EU Algae - Algae - *Scenedemus subspicatus* 0.022 mg/l [72 hours]
4,5-dichloro-2-octyl-2H-isothiazol-3-one	**Acute - EC50 - Fresh water** Algae - Green algae - *Pseudokirchneriella subcapitata* 0.003 mg/l [72 hours] Effect: Population **Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* 0.001 mg/l [48 hours] Effect: Intoxication **Acute - LC50 - Fresh water** US EPA Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* Weight: 1.2 g 2.7 ppb [96 hours] Effect: Mortality **Chronic - NOEC** US EPA Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* 0.56 ppb [97 days] Effect: Growth **Chronic - NOEC - Marine water** OECD Algae - Diatom - *Nitzschia pungens* 19.789 µg/l [96 hours] Effect: Population
2-Octyl-2H-isothiazol-3-one	**Acute - EC50 - Fresh water** US EPA

Daphnia - Water flea - *Daphnia magna*
Age: <24 hours
107 ppb [48 hours]
Effect: Intoxication

Acute - LC50 - Fresh water
US EPA
Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss*
Weight: 0.7 g
47 ppb [96 hours]
Effect: Mortality

Chronic - NOEC - Fresh water
US EPA
Daphnia - Water flea - *Daphnia magna*
74 ppb [21 days]
Effect: No Effect Coded

Chronic - NOEC
US EPA
Fish - Fathead minnow - *Pimephales promelas*
8.5 ppb [35 days]
Effect: Growth

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name	Result
1,2-benzisothiazol-3(2H)-one	EU 24% [28 days]

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
1,2-benzisothiazol-3(2H)-one	-	-	Inherent
3-iodo-2-propynyl-butyl carbamate	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
1,2-benzisothiazol-3(2H)-one	-	3.2	Low
pyrithione zinc	0.9	11 [OECD 305 E]	Low
3-iodo-2-propynyl-butyl carbamate	>1	-	Low
2-Octyl-2H-isothiazol-3-one	2.45	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	Value
1,2-benzisothiazol-3(2H)-one	logKoc: 1.9 Koc: 73.142
3-iodo-2-propynyl-butyl carbamate	logKoc: 1.1 Koc: 13.4558
4,5-dichloro-2-octyl-2H-isothiazol-3-one	logKoc: 3.4 Koc: 2562.01
2-Octyl-2H-isothiazol-3-one	logKoc: 2.8 Koc: 706.605

Results of PMT and vPvM assessment

SECTION 12: Ecological information

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
1,2-benzisothiazol-3(2H)-one	No	No	No	No	No	No	No
pyrithione zinc	No	No	No	No	No	No	No
3-iodo-2-propynyl-butyl carbamate	No	No	No	No	No	No	No
4,5-dichloro-2-octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No
2-Octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No

Mobility : Not available.

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
1,2-benzisothiazol-3(2H)-one	No	N/A	No	No	No	N/A	No
pyrithione zinc	No	N/A	No	Yes	No	N/A	No
3-iodo-2-propynyl-butyl carbamate	N/A	N/A	N/A	Yes	N/A	N/A	N/A
4,5-dichloro-2-octyl-2H-isothiazol-3-one	N/A	N/A	N/A	Yes	N/A	N/A	N/A
2-Octyl-2H-isothiazol-3-one	N/A	N/A	N/A	Yes	N/A	N/A	N/A

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
1,2-benzisothiazol-3(2H)-one	No	No	No	No	No	No	No
pyrithione zinc	No	No	No	No	No	No	No
3-iodo-2-propynyl-butyl carbamate	No	No	No	No	No	No	No
4,5-dichloro-2-octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No
2-Octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations. Avoid release to the environment. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

European waste catalogue (EWC) : 08 01 19

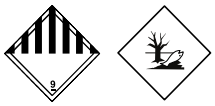
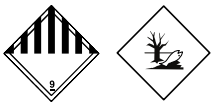
Packaging

SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)
14.3 Transport hazard class(es)	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.

Additional information

ADR/RID : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Tunnel code (-)

ADN : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not relevant/applicable due to nature of the product.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
PENTOPROTECT TL 2040-00	≥90	3

Labelling :

Synthetic polymer microparticles - Designation 78

Generic identity of polymer(s) : 3903 - Polymers of styrene., 3906 - Acrylic polymers.

Total percentage of synthetic polymer microparticles : 16.2%

The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

(EC) No 273/2004 on drug precursors

Not listed.

(EC) No 111/2005 Trade between the Union and third countries in drug precursors

Not listed.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
E1

National regulations

Austria

SECTION 15: Regulatory information

Limitation of the use of organic solvents : Permitted.

Belgium

Czech Republic

Storage code : IV

Denmark

Fire class : IV-1

MAL-code : 00-1

Protection based on MAL : **According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:**

General: Gloves must be worn for all work that may result in soiling. Apron/ coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required.

In all spraying operations in which there is return spray, the following must be worn: respiratory protection and arm protectors/apron/coveralls/protective clothing as appropriate or as instructed.

MAL-code: 00-1
Application: When spraying in existing* spray booths, if the operator is outside the spray zone.

- Arm protectors must be worn.

During all spraying where atomisation occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

- Full mask with combined filter, coveralls and hood must be worn.

Drying: Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc, must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

Polishing: When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

Caution The regulations contain other stipulations in addition to the above.

*See Regulations.

Restrictions on use : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.

List of undesirable substances : Not listed

Finland

France

Reinforced medical surveillance : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Germany

Storage class (TRGS 510) : 10

Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

SECTION 15: Regulatory information

Danger criteria

Category	Reference number
E1	1.3.1

Hazard class for water : 3

Technical instruction on air quality control (TA Luft)

Number [Class]	Description	%
5.2.1	Total dust	7.2
5.2.4 [III]	Gaseous inorganic substances	0.029
5.2.5	Organic substances	10.4
5.2.5 [I]	Organic substances	0.18
5.2.7.1.3	Reproductive toxic substances	0.028
5.2.10	Soil polluting substances	0.085

AOX : The product contains organically bound halogens and can contribute to the AOX value in waste water.

Italy

D.Lgs. 152/06 : Not determined.

Netherlands

Ministry of Social Affairs and Employment (SZW) - Carcinogenic substances and processes, mutagenic or reprotoxic substances

Ingredient name	Carcinogen	Mutagen	Reproductive toxicity - Fertility	Reproductive toxicity - Development	Harmful via breastfeeding
Solvent naphtha (petroleum), light arom.	Listed	Listed	-	-	-

Water Discharge Policy (ABM) : Z(1) Non biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity/ bioacumulative potential/ toxicity or persistence). Decontamination effort: Z

Norway

Sweden

Switzerland

VOC content : Exempt.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Sens. 1, H317	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic 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.
H330	Fatal if inhaled.
H360D	May damage the unborn child.
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.
EUH071	Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS]

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Repr. 1B	REPRODUCTIVE TOXICITY - Category 1B
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1

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Date of previous issue : 27/01/2026

Version : 1.03

PENTOPROTECT TL 2040-00 All variants

Notice to reader

SECTION 16: Other information

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.