

SAFETY DATA SHEET



TEKNOSAFE FLAME GUARD 2477-00 - BASE T

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

1.1 Product identifier

Product name : TEKNOSAFE FLAME GUARD 2477-00 - BASE T

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 : NHS: 111

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]

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

Signal word : No signal word.

Hazard statements : H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P273 - Avoid release to the environment.

Response : Not applicable.

Storage : Not applicable.

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

Supplemental label elements : Contains Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene), 3-aminopropyltriethoxysilane, 3-iodo-2-propynyl-butyl carbamate, Formaldehyde, 1,2-benzisothiazol-3(2H)-one and reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction. Contains biocidal products for in-can preservation: IPBC and BIT and DTBMA and C(M)IT/MIT (3:1) and MBIT. Risk of skin sensitisation.

SECTION 2: Hazards identification

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

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Imidazo[4,5-d]imidazole-2,5 (1H,3H)-dione, tetrahydro-, polymer with formaldehyde, butylated	CAS: 68036-98-6	≤5	Aquatic Chronic 4, H413	-	[1]
(Z)-9-Octadecen-1-ol ethoxylated	EC: 500-016-2 CAS: 9004-98-2	<1	Skin Irrit. 2, H315 Aquatic Acute 1, H400	M [Acute] = 1	[1]
Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyloxypoly(oxyethylene)	EC: 400-830-7 Index: 607-176-00-3	<1	Skin Sens. 1, H317 Aquatic Chronic 2, H411	-	[1]
3-aminopropyltriethoxysilane	REACH #: 01-2119480479-24 EC: 213-048-4 CAS: 919-30-2	<1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	ATE [Oral] = 1570 mg/kg	[1]
3-iodo-2-propynyl-butyl carbamate	EC: 259-627-5 CAS: 55406-53-6 Index: 616-212-00-7	<1	Acute Tox. 4, H302 Acute Tox. 3, H331 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)] = 0.67 mg/l M [Acute] = 10 M [Chronic] = 1	[1]
triazine compound	EC: 253-575-7 CAS: 37640-57-6	≤0.3	Carc. 2, H351 Repr. 2, H361 STOT RE 2, H373	-	[1]
Formaldehyde	REACH #: 01-2119488953-20	<0.1	Acute Tox. 3, H301 Acute Tox. 3, H311	ATE [Oral] = 100 mg/kg	[1] [2]

SECTION 3: Composition/information on ingredients

	EC: 200-001-8 CAS: 50-00-0 Index: 605-001-00-5		Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H335	ATE [Dermal] = 300 mg/kg ATE [Inhalation (gases)] = 700 ppm Skin Corr. 1B, H314: C ≥ 25% Skin Irrit. 2, H315: 5% ≤ C < 25% Eye Dam. 1, H318: C ≥ 25% Eye Irrit. 2, H319: 5% ≤ C < 25% Skin Sens. 1, H317: C ≥ 0.2% STOT SE 3, H335: C ≥ 5%	
1,2-benzisothiazol-3(2H)-one	EC: 220-120-9 CAS: 2634-33-5 Index: 613-088-00-6	<0.036	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]
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	EC: 911-418-6 CAS: 55965-84-9 Index: 613-167-00-5	<0.001	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 EUH071	ATE [Oral] = 53 mg/kg ATE [Dermal] = 50 mg/kg ATE [Inhalation (vapours)] = 0.5 mg/l Skin Corr. 1C, H314: C ≥ 0.6% Eye Dam. 1, H318: C ≥ 0.6% Eye Irrit. 2, H319: 0.06% ≤ C < 0.6% Skin Sens. 1, H317: C ≥ 0.0015% M [Acute] = 100 M [Chronic] = 100	[1]
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.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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 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** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

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. 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.

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.
- 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). Do not ingest. Avoid contact with eyes, skin and clothing. 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. See Section 10 for incompatible materials before handling or use.

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

Product/ingredient name	Exposure limit values
Formaldehyde	EH40/2005 WELs (United Kingdom (UK), 1/2020) Carc. STEL 15 minutes: 2.5 mg/m ³ . STEL 15 minutes: 2 ppm. TWA 8 hours: 2 ppm. TWA 8 hours: 2.5 mg/m ³ .

Biological exposure indices

Product/ingredient name	Exposure indices
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
[Z]-9-Octadecen-1-ol ethoxylated	DNEL - General population - Long term - Oral 2.5 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Long term - Inhalation 6.53 mg/m ³ <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Inhalation 37 mg/m ³ <u>Effects</u> : Systemic
	DNEL - General population - Long term - Dermal 125 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Dermal 350 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Long term - Oral 1 mg/kg bw/day <u>Effects</u> : Systemic
3-aminopropyltriethoxysilane	DNEL - General population - Long term - Dermal 1 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - Workers - Long term - Dermal 2 mg/kg bw/day <u>Effects</u> : Systemic
	DNEL - General population - Long term - Inhalation 3.5 mg/m ³

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Effects: Systemic

DNEL - Workers - Long term - Inhalation

14 mg/m³

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

Formaldehyde

DNEL - General population - Long term - Dermal

12 µg/cm²

Effects: Local

DNEL - Workers - Long term - Dermal

37 µg/cm²

Effects: Local

DNEL - General population - Long term - Inhalation

0.1 mg/m³

Effects: Local

DNEL - Workers - Long term - Inhalation

0.375 mg/m³

Effects: Local

DNEL - Workers - Short term - Inhalation

0.75 mg/m³

Effects: Local

DNEL - General population - Long term - Inhalation

3.2 mg/m³

Effects: Systemic

DNEL - General population - Long term - Oral

4.1 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Inhalation

9 mg/m³

Effects: Systemic

DNEL - General population - Long term - Dermal

102 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal

240 mg/kg bw/day

Effects: Systemic

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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

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

DNEL - General population - Long term - Inhalation

0.02 mg/m³

Effects: Local

DNEL - Workers - Long term - Inhalation

0.02 mg/m³

Effects: Local

DNEL - General population - Short term - Inhalation

0.04 mg/m³

Effects: Local

DNEL - Workers - Short term - Inhalation

0.04 mg/m³

Effects: Local

DNEL - General population - Long term - Oral

0.09 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Oral

0.11 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. 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

SECTION 8: Exposure controls/personal 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** : Clear.
- 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** :

Ingredient name	°C	°F	Method
Dipentaerythritol	>400	>752	EU A.16

- Decomposition temperature** : Not available.
- pH** : 6 to 9 [Conc. (% w/w): 100%]
- Viscosity** : Not available.
- Solubility(ies)** :
Not available.

SECTION 9: Physical and chemical properties

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				
Polyphosphoric acids, ammonium salts	0	0				

Relative density : Not available.

Density : 1.2 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

3-aminopropyltriethoxysilane

Result

Rabbit - Dermal - LD50

4.29 g/kg

Toxic effects: Gastrointestinal - Ulceration or bleeding from stomach
Kidney, Ureter, and Bladder - Other changes
Skin After topical exposure - Primary irritation

Rat - Oral - LD50

1.57 g/kg

Toxic effects: Gastrointestinal - Hypermotility, diarrhea
Kidney, Ureter, and Bladder - Changes in tubules (including acute renal failure, acute tubular necrosis)

3-iodo-2-propynyl-butyl carbamate

Rat - Oral - LD50

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SECTION 11: Toxicological information

	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/m ³ [4 hours]
triazine compound	Rat - Oral - LD50 2500 mg/kg
	Rat - Dermal - LD50 5520 mg/kg
Formaldehyde	Rat - Oral - LD50 100 mg/kg
	Rabbit - Dermal - LD50 270 mg/kg
	Rat - Inhalation - LC50 Gas. 250 ppm [4 hours]
1,2-benzisothiazol-3(2H)-one	Rat - Oral - LD50 1020 mg/kg
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	Rat - Oral - LD50 53 mg/kg <u>Toxic effects:</u> Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression

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)
TEKNOSAFE FLAME GUARD 2477-00	N/A	N/A	N/A	N/A	167.5
3-aminopropyltriethoxysilane	1570	4290	N/A	N/A	N/A
3-iodo-2-propynyl-butyl carbamate	400	N/A	N/A	N/A	0.67
triazine compound	2500	5520	N/A	N/A	N/A
Formaldehyde	100	300	700	N/A	N/A
1,2-benzisothiazol-3(2H)-one	450	N/A	N/A	N/A	0.21
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	53	50	N/A	0.5	N/A

Skin corrosion/irritation

Product/ingredient name

(Z)-9-Octadecen-1-ol ethoxylated

Result

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

3-aminopropyltriethoxysilane

Rabbit - Skin - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 5 mg

Formaldehyde

Human - Skin - Mild irritant

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Duration of treatment/exposure: 72 hours

Amount/concentration applied: 150 ug l

Human - Skin - Severe irritant

Amount/concentration applied: 0.01 %

Rabbit - Skin - Mild irritant

Amount/concentration applied: 540 mg

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 50 mg

Rabbit - Skin - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 2 mg

Rabbit - Skin - Severe irritant

Amount/concentration applied: 0.8 %

Mouse - Skin - Moderate irritant

Amount/concentration applied: 7 %

Rat - Skin - Moderate irritant

Amount/concentration applied: 7 %

1,2-benzisothiazol-3(2H)-one

Human - Skin - Mild irritant

Duration of treatment/exposure: 48 hours

Amount/concentration applied: 5 %

reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

Human - Skin - Severe irritant

Amount/concentration applied: 0.01 %

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

(Z)-9-Octadecen-1-ol ethoxylated

Result

Rabbit - Eyes - Moderate irritant

Amount/concentration applied: 100 uL

3-aminopropyltriethoxysilane

Rabbit - Eyes - Mild irritant

Amount/concentration applied: 100 mg

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 750 ug

3-iodo-2-propynyl-butyl carbamate

Rabbit - Eyes - Severe irritant

triazine compound

Rabbit - Eyes - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Formaldehyde

Human - Eyes - Mild irritant

Duration of treatment/exposure: 6 minutes

Amount/concentration applied: 1 ppm

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 750 ug

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 750 ug

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Rabbit - Eyes - Severe irritant

Amount/concentration applied: 37 %

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 10 mg

Mouse - Eyes - Moderate irritant

Amount/concentration applied: 3 %

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name

3-iodo-2-propynyl-butyl carbamate

Result

Guinea pig - skin

Result: Not sensitizing

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name

3-iodo-2-propynyl-butyl carbamate

Result

In vitro - Bacteria

Result: Negative

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Product/ingredient name

3-iodo-2-propynyl-butyl carbamate

Result

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)

Product/ingredient name

Result

SECTION 11: Toxicological information

Formaldehyde

STOT SE 3, H335 (Respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Product/ingredient name

3-iodo-2-propynyl-butyl carbamate
triazine compound

Result

STOT RE 1, H372 (larynx)
STOT RE 2, H373

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 : No known significant effects or critical hazards.
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 : No specific data.
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.

Conclusion/Summary [Product] : Not available.

General : No known significant effects or critical hazards.
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

3-iodo-2-propynyl-butyl carbamate

Result

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]

Formaldehyde

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia pulex* - Neonate

Age: <24 hours

5800 µg/l [48 hours]

Effect: Intoxication

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*

0.788 mg/l [96 hours]

Effect: Reproduction

Acute - LC50 - Fresh water

US EPA

Fish - Rainbow trout, donaldson trout - *Oncorhynchus mykiss*

1.41 ppm [96 hours]

Effect: Mortality

Chronic - NOEC - Fresh water

Fish - Chinook salmon - *Oncorhynchus tshawytscha* - Egg

953.9 ppm [43 days]

Effect: Mortality

Chronic - NOEC - Marine water

Algae - Haptophyte - *Isochrysis galbana* - Exponential growth phase

Age: 4 to 5 days

0.005 mg/l [96 hours]

Effect: Population

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]

SECTION 12: Ecological information

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]

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name

3,2-benzisothiazol-3(2H)-one

Result

EU
24% [28 days]

Conclusion/Summary [Product] : Not available.

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

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
3-aminopropyltriethoxysilane	1.7	3.4 [OECD 305 C]	Low
3-iodo-2-propynyl-butyl carbamate	>1	-	Low
triazine compound	-2.28	-	Low
Formaldehyde	0.35	-	Low
1,2-benzisothiazol-3(2H)-one	-	3.2	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logK _{oc}	K _{oc}
3-aminopropyltriethoxysilane	2.5	282.955
3-iodo-2-propynyl-butyl carbamate	1.1	13.4558
Formaldehyde	0.44	2.72646
1,2-benzisothiazol-3(2H)-one	1.9	73.142

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
imidazo[4,5-d]imidazole-2,5 (1H,3H)-dione, tetrahydro-, polymer with formaldehyde, butylated	No	No	No	No	No	No	No
(Z)-9-Octadecen-1-ol ethoxylated	No	No	No	No	No	No	No
Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-	No	No	No	No	No	No	No

SECTION 12: Ecological information

butyl-4-hydroxyphenyl) propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyloxypoly (oxyethylene)							
3-aminopropyltriethoxysilane	No						
3-iodo-2-propynyl-butyl carbamate	No						
triazine compound	No						
Formaldehyde	No						
1,2-benzisothiazol-3(2H)-one	No						
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	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
imidazo[4,5-d]imidazole-2,5 (1H,3H)-dione, tetrahydro-, polymer with formaldehyde, butylated	No	N/A	N/A	No	N/A	N/A	N/A
(Z)-9-Octadecen-1-ol ethoxylated	No	N/A	N/A	No	N/A	N/A	N/A
Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyloxypoly (oxyethylene)	No	N/A	N/A	No	N/A	N/A	N/A
3-aminopropyltriethoxysilane	No	N/A	No	No	No	N/A	No
3-iodo-2-propynyl-butyl carbamate	N/A	N/A	N/A	Yes	N/A	N/A	N/A
triazine compound	N/A	N/A	N/A	Yes	N/A	N/A	N/A
Formaldehyde	N/A	N/A	N/A	Yes	N/A	N/A	N/A
1,2-benzisothiazol-3(2H)-one	No	N/A	No	No	No	N/A	No
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	No	N/A	N/A	No	N/A	N/A	N/A

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

SECTION 12: Ecological information

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
imidazo[4,5-d]imidazole-2,5 (1H,3H)-dione, tetrahydro-, polymer with formaldehyde, butylated	No	No	No	No	No	No	No
(Z)-9-Octadecen-1-ol ethoxylated	No	No	No	No	No	No	No
Mixture of alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-hydroxypoly(oxyethylene) and alpha-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl) propionyloxypoly (oxyethylene)	No	No	No	No	No	No	No
3-aminopropyltriethoxysilane	No	No	No	No	No	No	No
3-iodo-2-propynyl-butyl carbamate	No	No	No	No	No	No	No
triazine compound	No	No	No	No	No	No	No
Formaldehyde	No	No	No	No	No	No	No
1,2-benzisothiazol-3(2H)-one	No	No	No	No	No	No	No
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	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 : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

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

European waste catalogue (EWC) : 080112

SECTION 13: Disposal considerations

Packaging

- 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	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

- 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]
TEKNOSAFE FLAME GUARD 2477-00	≥90	3
Formaldehyde	<0.1	72

Labelling :

Other EU regulations

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

SECTION 15: Regulatory information

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

Explosive precursors : Not applicable.

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 not controlled under the Seveso Directive.

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
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

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SECTION 16: Other information

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
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.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
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 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Carc. 1B	CARCINOGENICITY - Category 1B
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
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
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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[Notice to reader](#)

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.

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