

# SAFETY DATA SHEET



TEKNOSAFE FLAME GUARD 2477-00 - CLEAR

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

### 1.1 Product identifier

**Product name** : TEKNOSAFE FLAME GUARD 2477-00 - CLEAR

### 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

#### National contact

Teknos (UK) Limited, 7 Longlands Rd, Bicester, Oxfordshire OX26 5AH, United Kingdom. Tel. +44 (0) 1869 208005.

### 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 UK CLP/GHS

Skin Sens. 1, H317

Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 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.  
H412 - Harmful 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** : P362 + P364 - Take off contaminated clothing and wash it before reuse.  
P302 + P352 - IF ON SKIN: Wash with plenty of water.  
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.

**Storage** : Not applicable.

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

## SECTION 2: Hazards identification

**Supplemental label elements** : Contains biocidal products for in-can preservation: C(M)IT/MIT (3:1).

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### 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	Type
Imidazo[4,5-d]imidazole-2,5(1H,3H)-dione, tetrahydro-, polymer with formaldehyde, butylated 2-(2-butoxyethoxy)ethanol	CAS: 68036-98-6	≤5	Aquatic Chronic 4, H413	[1]
	REACH #: 01-2119475104-44 EC: 203-961-6 CAS: 112-34-5 Index: 603-096-00-8	≤3	Eye Irrit. 2, H319	[1] [2]
Pentaerythritol	REACH #: 01-2119473985-20 EC: 204-104-9 CAS: 115-77-5	≤1	Not classified.	[2]
Butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≤0.1	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
Formaldehyde	REACH #: 01-2119488953-20 EC: 200-001-8 CAS: 50-00-0 Index: 605-001-00-5	<0.1	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1)	[1] [2]
Ammonia	REACH #: 01-2119488876-14 EC: 215-647-6 CAS: 1336-21-6 Index: 007-001-01-2	<0.1	Aquatic Chronic 1, H410 (M=10) Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1)	[1] [2]
2-methyl-2H-isothiazol-3-one	EC: 220-239-6 CAS: 2682-20-4	<0.01	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317	[1]

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## SECTION 3: Composition/information on ingredients

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)	CAS: 55965-84-9 Index: 613-167-00-5	≤0.012	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1) EUH071 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 (M=100) Aquatic Chronic 1, H410 (M=100) EUH071	[1]
2-aminoethanol	EC: 205-483-3 CAS: 141-43-5	≤0.1	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412	[1] [2]
2,6-di-tert-butyl-p-cresol	EC: 204-881-4 CAS: 128-37-0	<0.1	Aquatic Chronic 1, H410 (M=1) <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

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. 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. 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** : 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.

## SECTION 4: First aid measures

- 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.
- 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** : 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  
phosphorus 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.

## 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 or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### 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.

### 7.3 Specific end use(s)

## SECTION 7: Handling and storage

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

2-(2-butoxyethoxy)ethanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 ppm 8 hours. STEL: 15 ppm 15 minutes. TWA: 67.5 mg/m <sup>3</sup> 8 hours. STEL: 101.2 mg/m <sup>3</sup> 15 minutes.
Pentaerythritol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 4 mg/m <sup>3</sup> 8 hours. Form: respirable dust STEL: 20 mg/m <sup>3</sup> 15 minutes. Form: inhalable dust TWA: 10 mg/m <sup>3</sup> 8 hours. Form: inhalable dust
Butan-1-ol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 154 mg/m <sup>3</sup> 15 minutes. STEL: 50 ppm 15 minutes.
Formaldehyde	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> STEL: 2.5 mg/m <sup>3</sup> 15 minutes. STEL: 2 ppm 15 minutes. TWA: 2 ppm 8 hours. TWA: 2.5 mg/m <sup>3</sup> 8 hours.
Ammonia	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [ammonia]</b> STEL: 25 mg/m <sup>3</sup> 15 minutes. Form: anhydrous STEL: 35 ppm 15 minutes. Form: anhydrous TWA: 25 ppm 8 hours. Form: anhydrous TWA: 18 mg/m <sup>3</sup> 8 hours. Form: anhydrous
2-aminoethanol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 7.6 mg/m <sup>3</sup> 15 minutes. STEL: 3 ppm 15 minutes. TWA: 1 ppm 8 hours. TWA: 2.5 mg/m <sup>3</sup> 8 hours.
2,6-di-tert-butyl-p-cresol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
2-(2-butoxyethoxy)ethanol	DNEL	Long term Oral	5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	40.5 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	40.5 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	50 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	60.7 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	67.5 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	67.5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic

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## SECTION 8: Exposure controls/personal protection

Pentaerythritol	DNEL	Short term Inhalation	101.2 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	0.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	0.9 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	3.5 mg/m <sup>3</sup>	Workers	Systemic	
Butan-1-ol	DNEL	Long term Inhalation	55 mg/m <sup>3</sup>	General population	Local	
	DNEL	Long term Inhalation	310 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Long term Oral	1.5625 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	3.125 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	55.357 mg/m <sup>3</sup>	General population	Systemic	
	Formaldehyde	DNEL	Long term Dermal	0.012 mg/cm <sup>2</sup>	General population	Local
DNEL		Long term Dermal	0.037 mg/cm <sup>2</sup>	Workers	Local	
DNEL		Long term Inhalation	0.1 mg/m <sup>3</sup>	General population	Local	
DNEL		Long term Inhalation	3.2 mg/m <sup>3</sup>	General population	Systemic	
DNEL		Long term Oral	4.1 mg/kg bw/day	General population	Systemic	
DNEL		Long term Inhalation	9 mg/m <sup>3</sup>	Workers	Systemic	
DNEL		Long term Dermal	102 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	240 mg/kg bw/day	Workers	Systemic	
DNEL		Long term Inhalation	0.375 mg/m <sup>3</sup>	Workers	Local	
DNEL		Short term Inhalation	0.75 mg/m <sup>3</sup>	Workers	Local	
2-methyl-2H-isothiazol-3-one		DNEL	Long term Inhalation	0.021 mg/m <sup>3</sup>	General population	Local
		DNEL	Long term Inhalation	0.021 mg/m <sup>3</sup>	Workers	Local
		DNEL	Long term Oral	0.027 mg/kg bw/day	General population	Systemic
		DNEL	Short term Inhalation	0.043 mg/m <sup>3</sup>	General population	Local
	DNEL	Short term Inhalation	0.043 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Short term Oral	0.053 mg/kg bw/day	General population	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	Long term Inhalation	0.02 mg/m <sup>3</sup>	General population	Local
		DNEL	Long term Inhalation	0.02 mg/m <sup>3</sup>	Workers	Local
		DNEL	Short term Inhalation	0.04 mg/m <sup>3</sup>	General population	Local
		DNEL	Short term Inhalation	0.04 mg/m <sup>3</sup>	Workers	Local
DNEL		Long term Oral	0.09 mg/	General	Systemic	

## SECTION 8: Exposure controls/personal protection

2-aminoethanol	DNEL	Short term Oral	kg bw/day 0.11 mg/ kg bw/day	population General population	Systemic
	DNEL	Long term Dermal	0.24 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.18 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	0.28 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	0.51 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	1 mg/m <sup>3</sup>	Workers	Systemic
2,6-di-tert-butyl-p-cresol	DNEL	Long term Oral	1.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.25 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.25 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.435 mg/ m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	1.76 mg/m <sup>3</sup>	Workers	Systemic

### PNECs

No PNECs 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.



## SECTION 8: Exposure controls/personal protection

- 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	
2-(2-butoxyethoxy)ethanol	225 to 227.6	437 to 441.7	

- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Lower: 0.8%  
Upper: 9.4%
- Flash point** : Closed cup: >100°C (>212°F)
- Auto-ignition temperature** :

Ingredient name	°C	°F	Method
2-(2-butoxyethoxy)ethanol	210	410	DIN 51794
Dipentaerythritol	>400	>752	EU A.16

- Decomposition temperature** : Not available.
- pH** : Not available.
- 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	23.8	3.2				
2-(2-butoxyethoxy)ethanol	0.02	0.0027				

- Relative density** : Not available.
- Density** : 1.2 g/cm<sup>3</sup>

## SECTION 9: Physical and chemical properties

Vapour density	: Not available.
Explosive properties	: Not available.
Oxidising properties	: Not available.
<u>Particle characteristics</u>	
Median particle size	: 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 toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
Pentaerythritol	LD50 Oral	Rat	18500 mg/kg	-
Butan-1-ol	LC50 Inhalation Vapour	Rat	24000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Formaldehyde	LC50 Inhalation Gas.	Rat	250 ppm	4 hours
	LD50 Dermal	Rabbit	270 mg/kg	-
	LD50 Oral	Rat	100 mg/kg	-
Ammonia	LD50 Oral	Rat	350 mg/kg	-
2-methyl-2H-isothiazol-3-one	LC50 Inhalation Dusts and mists	Rat	0.11 mg/l	4 hours
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)	LD50 Oral	Rat	53 mg/kg	-
2-aminoethanol	LD50 Oral	Rat	1720 mg/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Oral	Rat	890 mg/kg	-

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

#### Acute toxicity estimates

Route	ATE value
Not available.	

#### Irritation/Corrosion

## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-(2-butoxyethoxy)ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
Butan-1-ol	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Eyes - Severe irritant	Rabbit	-	0.005 MI	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
Formaldehyde	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Human	-	6 minutes 1 ppm	-
	Eyes - Severe irritant	Rabbit	-	24 hours 750 ug	-
	Eyes - Severe irritant	Rabbit	-	750 ug	-
	Skin - Mild irritant	Human	-	72 hours 150 ug l	-
	Skin - Mild irritant	Rabbit	-	540 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Severe irritant	Human	-	0.01 %	-
Ammonia	Skin - Severe irritant	Rabbit	-	0.8 %	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-
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)	Eyes - Severe irritant	Rabbit	-	0.5 minutes 1 mg	-
	Eyes - Severe irritant	Rabbit	-	250 ug	-
2-aminoethanol	Skin - Severe irritant	Human	-	0.01 %	-
	Eyes - Severe irritant	Rabbit	-	250 ug	-
2,6-di-tert-butyl-p-cresol	Skin - Moderate irritant	Rabbit	-	505 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Human	-	48 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	48 hours 500 mg	-

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Sensitisation

**Conclusion/Summary** : May cause an allergic skin reaction.

### Mutagenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Carcinogenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Reproductive toxicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Teratogenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs

## SECTION 11: Toxicological information

Butan-1-ol	Category 3	-	Respiratory tract irritation
Formaldehyde	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
Ammonia	Category 3	-	Respiratory tract irritation
2-aminoethanol	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### 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.

**Conclusion/Summary** : 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.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2-(2-butoxyethoxy)ethanol	Acute LC50 1300000 µg/l Fresh water	Fish - Bluegill - Lepomis macrochirus	96 hours
Pentaerythritol	Acute EC50 33600000 µg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
Butan-1-ol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
Formaldehyde	Acute EC50 3.48 mg/l Fresh water	Algae - Green algae - Desmodesmus subspicatus	72 hours
	Acute EC50 0.788 mg/l Marine water	Algae - Green algae - Ulva pertusa	96 hours
	Acute EC50 12.98 mg/l Fresh water	Crustaceans - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 5800 µg/l Fresh water	Daphnia - Water flea - Daphnia pulex - Neonate	48 hours
	Acute LC50 1.41 ppm Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.005 mg/l Marine water	Algae - Haptophyte - Isochrysis galbana - Exponential growth phase	96 hours
	Chronic NOEC 953.9 ppm Fresh water	Fish - Chinook salmon - Oncorhynchus tshawytscha - Egg	43 days
Ammonia	Acute LC50 37 ppm Fresh water	Fish - Western mosquitofish - Gambusia affinis - Adult	96 hours
2-methyl-2H-isothiazol-3-one	Acute EC50 0.18 ppm Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Acute LC50 0.07 ppm Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
2-aminoethanol	Acute EC50 8.42 mg/l Fresh water	Algae - Green algae - Desmodesmus subspicatus	72 hours
	Acute LC50 >100000 µg/l Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
	Acute LC50 170 mg/l Fresh water	Fish - Goldfish - Carassius auratus	96 hours
2,6-di-tert-butyl-p-cresol	Acute EC50 1440 µg/l Fresh water	Daphnia - Water flea - Daphnia pulex - Neonate	48 hours

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### 12.2 Persistence and degradability

**Conclusion/Summary** : This product has not been tested for biodegradation.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2-(2-butoxyethoxy)ethanol	1	-	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## SECTION 12: Ecological information

**12.6 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

#### 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

	<b>ADR/RID</b>	<b>ADN</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	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 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

#### UK (GB) /REACH

#### Annex XIV - List of substances subject to authorisation

#### Annex XIV

None of the components are listed.

## SECTION 15: Regulatory information

### Substances of very high concern

None of the components are listed.

### Ozone depleting substances

Not listed.

### Prior Informed Consent (PIC)

Not listed.

### Persistent Organic Pollutants

Not listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Seveso Directive

This product is not controlled under the Seveso Directive.

### National regulations

Product/ingredient name	List name	Name on list	Classification	Notes
Formaldehyde	UK Occupational Exposure Limits EH40 - WEL	formaldehyde; methanal	Carc.	-

### EU regulations

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

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

### 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  
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = GB 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

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

### Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
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.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
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.
H413	May cause long lasting harmful effects to aquatic life.
EUH071	Corrosive to the respiratory tract.

### Full text of classifications

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
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Carc. 1B	CARCINOGENICITY - Category 1B
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
Muta. 2	GERM CELL MUTAGENICITY - 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 SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3



## SECTION 16: Other information

**Date of issue/ Date of revision** : 29/09/2022

**Date of previous issue** : No previous validation

**Version** : 1

TEKNOSAFE FLAME GUARD 2477-00\_CLEAR CLEAR

### 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.

