

# SAFETY DATA SHEET



TEKNOL JRM - All variants

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

### 1.1 Product identifier

**Product name** : TEKNOL JRM - 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

#### National contact

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

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : Emergency medical information: (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland.  
Members of the public Number (8 am-10 pm): +353 (0)1 809 2166  
Healthcare professional telephone Number (24hrs): +353 (0)1 809 2566

## 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 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.  
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** : P302 + P352 - IF ON SKIN: Wash with plenty of water.  
P362 + P364 - Take off contaminated clothing and wash it before reuse.

**Storage** : Not applicable.

## SECTION 2: Hazards identification

<b>Disposal</b>	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazardous ingredients</b>	: Contains: 3-iodo-2-propynyl-butyl carbamate; 4,5-dichloro-2-octyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one and 1,2-benzisothiazol-3(2H)-one
<b>Supplemental label elements</b>	: Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Contains biocidal products for dry film and in-can preservation: IPBC and DCOIT and MIT and BIT and C(M)IT/MIT (3:1) and OIT. Risk of skin sensitisation.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	:

### 2.3 Other hazards

<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
<b>Other hazards which do not result in classification</b>	: 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
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7	≥10 - ≤25	Carc. 2, H351 (inhalation)	-	[1] [*]
3-iodo-2-propynyl-butyl carbamate	EC: 259-627-5 CAS: 55406-53-6 Index: 616-212-00-7	≤0.2	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]
(Z)-9-Octadecen-1-ol ethoxylated	EC: 500-016-2 CAS: 9004-98-2	≤0.3	Skin Irrit. 2, H315 Aquatic Acute 1, H400	M [Acute] = 1	[1]
4,5-dichloro-2-octyl-2H-isothiazol-3-one	EC: 264-843-8 CAS: 64359-81-5 Index: 613-335-00-8	≤0.022	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% Eye Irrit. 2, H319: 0.025% ≤ C < 3% Skin Sens. 1, H317: C ≥ 0.0015% M [Acute] = 100	[1]

## SECTION 3: Composition/information on ingredients

2-methyl-2H-isothiazol-3-one	EC: 220-239-6 CAS: 2682-20-4 Index: 613-326-00-9	<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 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 EUH071	M [Chronic] = 100 ATE [Oral] = 100 mg/kg ATE [Dermal] = 300 mg/kg ATE [Inhalation (dusts and mists)] = 0.11 mg/l Skin Sens. 1, H317: C ≥ 0.0015% M [Acute] = 10 M [Chronic] = 1	[1]
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  <b>See Section 16 for the full text of the H statements declared above.</b>	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]

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

[\*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix.

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.

## SECTION 4: First aid measures

- 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.
- 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 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  
metal oxide/oxides

### 5.3 Advice for firefighters

## SECTION 5: Firefighting measures

- 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 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. 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). 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

## SECTION 7: Handling and storage

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
No exposure limit value known.	

#### 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
titanium dioxide	<b>DNEL - General population - Long term - Inhalation</b> 28 µg/m <sup>3</sup> <u>Effects</u> : Local
	<b>DNEL - Workers - Long term - Inhalation</b> 170 µg/m <sup>3</sup> <u>Effects</u> : Local
3-iodo-2-propynyl-butyl carbamate	<b>DNEL - Workers - Long term - Inhalation</b> 0.023 mg/m <sup>3</sup> <u>Effects</u> : Systemic
	<b>DNEL - Workers - Short term - Inhalation</b> 0.07 mg/m <sup>3</sup> <u>Effects</u> : Systemic
	<b>DNEL - Workers - Short term - Inhalation</b> 1.16 mg/m <sup>3</sup> <u>Effects</u> : Local
	<b>DNEL - Workers - Long term - Inhalation</b> 1.16 mg/m <sup>3</sup> <u>Effects</u> : Local

## SECTION 8: Exposure controls/personal protection

(Z)-9-Octadecen-1-ol ethoxylated	<b>DNEL - Workers - Long term - Dermal</b> 2 mg/kg bw/day <u>Effects</u> : Systemic
	<b>DNEL - General population - Long term - Oral</b> 2.5 mg/kg bw/day <u>Effects</u> : Systemic
	<b>DNEL - General population - Long term - Inhalation</b> 6.53 mg/m <sup>3</sup> <u>Effects</u> : Systemic
	<b>DNEL - Workers - Long term - Inhalation</b> 37 mg/m <sup>3</sup> <u>Effects</u> : Systemic
	<b>DNEL - General population - Long term - Dermal</b> 125 mg/kg bw/day <u>Effects</u> : Systemic
2-methyl-2H-isothiazol-3-one	<b>DNEL - Workers - Long term - Dermal</b> 350 mg/kg bw/day <u>Effects</u> : Systemic
	<b>DNEL - General population - Long term - Inhalation</b> 0.021 mg/m <sup>3</sup> <u>Effects</u> : Local
	<b>DNEL - Workers - Long term - Inhalation</b> 0.021 mg/m <sup>3</sup> <u>Effects</u> : Local
	<b>DNEL - General population - Long term - Oral</b> 0.027 mg/kg bw/day <u>Effects</u> : Systemic
	<b>DNEL - General population - Short term - Inhalation</b> 0.043 mg/m <sup>3</sup> <u>Effects</u> : Local
	<b>DNEL - Workers - Short term - Inhalation</b> 0.043 mg/m <sup>3</sup> <u>Effects</u> : Local
	<b>DNEL - General population - Short term - Oral</b> 0.053 mg/kg bw/day <u>Effects</u> : Systemic
1,2-benzisothiazol-3(2H)-one	<b>DNEL - General population - Long term - Dermal</b> 0.345 mg/kg bw/day <u>Effects</u> : Systemic
	<b>DNEL - Workers - Long term - Dermal</b> 0.966 mg/kg bw/day <u>Effects</u> : Systemic
	<b>DNEL - General population - Long term - Inhalation</b> 1.2 mg/m <sup>3</sup> <u>Effects</u> : Systemic
	<b>DNEL - Workers - Long term - Inhalation</b> 6.81 mg/m <sup>3</sup> <u>Effects</u> : Systemic
reaction mass of: 5-chloro-2-methyl-	<b>DNEL - General population - Long term - Inhalation</b>



## SECTION 8: Exposure controls/personal protection

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

0.02 mg/m<sup>3</sup>  
Effects: Local

### **DNEL - Workers - Long term - Inhalation**

0.02 mg/m<sup>3</sup>  
Effects: Local

### **DNEL - General population - Short term - Inhalation**

0.04 mg/m<sup>3</sup>  
Effects: Local

### **DNEL - Workers - Short term - Inhalation**

0.04 mg/m<sup>3</sup>  
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. 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** : 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** : 8.5 to 9.1
- 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				
Tributyl O-acetyl citrate	0.00037	0.000049				

- Relative density** : Not available.
- Density** : 1.2 g/cm<sup>3</sup>
- Vapour density** : Not available.
- Particle characteristics**
- Median particle size** : Not applicable.

## SECTION 9: Physical and chemical properties

### 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**

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/m<sup>3</sup> [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-methyl-2H-isothiazol-3-one

**Rat - Inhalation - LC50 Dusts and mists**  
0.11 mg/l [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.

**Rat - Oral - LD50**  
53 mg/kg  
Toxic effects: Behavioral - Somnolence (general depressed

## SECTION 11: Toxicological information

220-239-6] (3:1)

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)
TEKNOL JRM	N/A	N/A	N/A	N/A	339.4
3-iodo-2-propynyl-butyl carbamate	400	N/A	N/A	N/A	0.67
4,5-dichloro-2-octyl-2H-isothiazol-3-one	567	N/A	N/A	N/A	0.16
2-methyl-2H-isothiazol-3-one	100	300	N/A	N/A	0.11
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

titanium dioxide

#### Result

**Human - Skin - Mild irritant**

Duration of treatment/exposure: 72 hours

Amount/concentration applied: 300 ug l

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

**Rabbit - Skin - Moderate irritant**

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

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

3-iodo-2-propynyl-butyl carbamate

#### Result

**Rabbit - Eyes - Severe irritant**

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

**Rabbit - Eyes - Moderate irritant**

Amount/concentration applied: 100 uL

**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

## SECTION 11: Toxicological information

### 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

It has been observed that the carcinogenic hazard of this product arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung.

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)

Not available.

### Specific target organ toxicity (repeated exposure)

#### Product/ingredient name

3-iodo-2-propynyl-butyl carbamate

#### Result

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.

## SECTION 11: Toxicological information

**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 [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**

titanium dioxide

#### **Result**

##### **Acute - LC50 - Marine water**

Fish - Mummichog - *Fundulus heteroclitus*  
>1000000 µg/l [96 hours]  
Effect: Mortality

##### **Acute - LC50 - Fresh water**

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate  
Age: <24 hours  
3 mg/l [48 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*

## SECTION 12: Ecological information

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-methyl-2H-isothiazol-3-one

### Acute - EC50 - Fresh water

US EPA

Daphnia - Water flea - *Daphnia magna*

Age: <24 hours

0.18 ppm [48 hours]

Effect: Intoxication

### Acute - LC50 - Fresh water

US EPA

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

Weight: 0.73 g

0.07 ppm [96 hours]

Effect: Mortality

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]

## SECTION 12: Ecological information

### 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

1,2-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 <sub>ow</sub>	BCF	Potential
3-iodo-2-propynyl-butyl carbamate	>1	-	Low
1,2-benzisothiazol-3(2H)-one	-	3.2	Low

## 12.4 Mobility in soil

### Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
3-iodo-2-propynyl-butyl carbamate	1.13	13.4558
4,5-dichloro-2-octyl-2H-isothiazol-3-one	3.41	2562.01
2-methyl-2H-isothiazol-3-one	1.74	54.9187
1,2-benzisothiazol-3(2H)-one	1.86	73.142

### Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
titanium dioxide	No	No	No	No	No	No	No
3-iodo-2-propynyl-butyl carbamate	No	No	No	No	No	No	No
(Z)-9-Octadecen-1-ol ethoxylated	No	No	No	No	No	No	No
4,5-dichloro-2-octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No
2-methyl-2H-isothiazol-3-one	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

**Mobility** : Not available.

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



## SECTION 12: Ecological information

### 12.5 Results of PBT and vPvB assessment

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
titanium dioxide	No	No	No	No	No	No	No
3-iodo-2-propynyl-butyl carbamate	No	No	No	No	No	No	No
(Z)-9-Octadecen-1-ol ethoxylated	No	No	No	No	No	No	No
4,5-dichloro-2-octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No
2-methyl-2H-isothiazol-3-one	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

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
titanium dioxide	No	No	No	No	No	No	No
3-iodo-2-propynyl-butyl carbamate	No	No	No	No	No	No	No
(Z)-9-Octadecen-1-ol ethoxylated	No	No	No	No	No	No	No
4,5-dichloro-2-octyl-2H-isothiazol-3-one	No	No	No	No	No	No	No
2-methyl-2H-isothiazol-3-one	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** : The product does not meet the criteria to be considered as a PBT or vPvB.  
**Regulation (EC) No. 1272/2008 [CLP]**

### 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

## SECTION 13: Disposal considerations

- 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.
- European waste catalogue (EWC)** : 080111\*, 200127\*
- 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

## SECTION 15: Regulatory information

Product/ingredient name	%	Designation [Usage]
TEKNOL JRM	≥90	3

**Labelling :**

## 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.

### 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]**

## SECTION 16: Other information

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

### Full text of abbreviated H statements

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.
H351	Suspected of causing cancer.
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
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
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

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revision

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Version : 2

TEKNOL JRM

All variants

### 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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TEKNOL JRM - All variants

Label No : 15617

