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SAFETY DATA SHEET



WOOD PRESERVER PLUS

H.S.E No: 10102

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

1.1 Product identifier

- Product name** : Protek Wood Preserver Plus
Hazardous ingredients : Contains: propiconazole (ISO),3-iodoprop-2-ynyl butylcarbamate,permethrin (ISO)

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

- Suitable uses** : Wood preservatives

1.3 Details of the supplier of the safety data sheet

- Supplier** : Protek Products
Crowne Trading Estate
Shepton Mallet, BA4 5QQ UK Telephone 01749 344697
E-mail: sales@protekproducts.co.uk

1.4 Emergency telephone number

- Telephone number** : 0870 190 6777. National Chemical Emergency Centre

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

- Classification** : Aquatic Acute 1, H400
Aquatic Chronic 1, H410

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

2.2 Label elements

Hazard pictograms



Signal word

- : Warning
Contains: propiconazole (ISO),3-iodoprop-2-ynyl butylcarbamate,permethrin (ISO)

Hazard statements

- : H410 - Very toxic to aquatic life with long lasting effects.

Supplemental label elements

- : Contains 3-iodo-2-propynyl butylcarbamate, propiconazole (ISO), permethrin (ISO) and 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

Precautionary statements

General

- : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention

- : Avoid release to the environment.

Response

- : Collect spillage.

Storage

- : Not applicable.

Disposal

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

2.3 Other hazards

Other hazards which do not result in classification

- : None known.

SECTION 3: Composition/information on ingredients

Product definition (REACH) : Mixture

Product/ingredient name	Identifiers	%	Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]	Type
dipropylene glycol monomethyl ether (isomer mixture)	REACH #: 01-2119450011-60 EC: 252-104-2 CAS: 34590-94-8	≤5	Not classified.	[2]
propiconazole (ISO)	EC: 262-104-4 CAS: 60207-90-1 Index: 613-205-00-0	<1	Acute Tox. 4, H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
3-iodo-2-propynyl butylcarbamate	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 (M=10) Aquatic Chronic 1, H410 (M=1)	[1]
zirkonium carboxylate	REACH #: 01-2119979088-21 EC: 245-018-1 CAS: 22464-99-9	≤1	Repr. 2, H361d (Unborn child)	[1]
permethrin (ISO)	EC: 258-067-9 CAS: 52645-53-1 Index: 613-058-00-2	<1	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1000) Aquatic Chronic 1, H410 (M=1000) See Section 16 for the full text of the H statements declared above.	[1]

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

Type

- [1] Substance classified with a health or environmental hazard
 [2] Substance with a workplace exposure limit
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
 [5] Substance of equivalent concern

SECTION 4: First aid measures

4.1 Description of 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.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

SECTION 4: First Aid Measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- 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.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life 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 thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

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. 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. Collect spillage.

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

- Large spill** : Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- 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

7.1 Precautions for safehandling

- 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

- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 30°C (32 to 86°F). 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.

Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1	100	200
C9i: Very toxic for the environment	100	200

7.3 Specific end use(s)

- Recommendations** : Not available.

Industrial sector specific solutions

- Remarks** : Not available.

- : Sensitive to light.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limit values

Ingredient name	Occupational exposure limits
dipropylene glycol monomethyl ether (isomer mixture)	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 308 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
zirkonium carboxylate	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 10 mg/m ³ , (as Zr) 15 minutes. TWA: 5 mg/m ³ , (as Zr) 8 hours.
2-butoxyethanol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 50 ppm 15 minutes. TWA: 25 ppm 8 hours.
2-(2-butoxyethoxy)ethanol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 ppm 8 Hours STEL: 15 ppm 15 minutes TWA: 67.5 mg/m ³ 8 hours STEL: 101.2 mg/m ³ 15 minutes

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 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.

8.2 Exposure controls

Appropriate engineering controls

: If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

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.
Recommended: Tightly fitting safety goggles.

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. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations Recommended: (< 1 hour) Butyl rubber - IIR, Nitrile rubber - NBR, Polyvinyl chloride
- PVC

- Other skin 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.
Recommended: Wear protective clothing.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: Full mask with type ABEK filter

SECTION 8: Exposure controls/personal protection

- 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

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid.
- Colour** : White to yellowish.
- Odour** : Characteristic. [Slight]
- Odour threshold** : Not available.
- pH** : 8,9 [Conc. (% w/w): 1%]
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: >100°C (>212°F)
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Density** : 1,009 kg/L (20°C)
- Relative density** : Not available.
- Solubility in water** : Miscible in water.
- Ignition temperature** : >600°C
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Dynamic: <2 mPa·s
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

9.2 Other information

- Remarks** : Surface tension: 52 mN/m (0.1%)
No additional information.

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.

SECTION 10: Stability and reactivity

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	Test
dipropylene glycol monomethyl ether (isomer mixture)	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	OECD 401 Acute Oral Toxicity
propiconazole (ISO)	LD50 Oral	Rat	1517 mg/kg	-	-
3-iodo-2-propynyl butylcarbamate	LD50 Oral	Rat	300 to 500 mg/kg	-	OECD 423 Acute Oral toxicity - Acute Toxic Class Method
zirkonium carboxylate	LD50 Oral	Rat - Female	>5000 mg/kg	-	OECD 423 Acute Oral toxicity - Acute Toxic Class Method
permethrin (ISO)	LD50 Oral	Rat	1479 mg/kg	-	-
monomethyl ether (isomer dipropylene glycol mixture)	LD50 Dermal	Rabbit - Male	9510 mg/kg	-	OECD 402 Acute Dermal Toxicity
propiconazole (ISO)	LD50 Dermal	Rat	>4000 mg/kg	-	-
3-iodo-2-propynyl butylcarbamate	LD50 Dermal	Rat - Male, Female	>5000 mg/kg Extrapolation according to Regulation (EC) No. 440/2008	-	OECD 402 Acute Dermal Toxicity
zirkonium carboxylate	LD50 Dermal	Rat - Male, Female	>5000 mg/kg Extrapolation according to Regulation (EC) No. 440/2008	-	OECD 402 Acute Dermal Toxicity
permethrin (ISO)	LD50 Dermal	Rat	>2000 mg/kg	-	-
dipropylene glycol monomethyl ether (isomer mixture)	LC50 Inhalation Vapour	Rat - Male, Female	1667 mg/m ³ Highest producible concentration. Dosage caused no mortality	7 hours	OECD 403 Acute Inhalation Toxicity
propiconazole (ISO)	LC50 Inhalation Dusts and mists	Rat	>5800 mg/m ³	4 hours	403 Acute Inhalation Toxicity
3-iodo-2-propynyl butylcarbamate	LC50 Inhalation Dusts and mists	Rat - Male, Female	0,67 mg/l	4 hours	OECD 403 Acute Inhalation Toxicity
zirkonium carboxylate	LC50 Inhalation Dusts and mists	Rat - Male, Female	>4,3 mg/l Highest producible concentration. Dosage caused no mortality	4 hours	OECD 436 Acute Inhalation Toxicity - Acute Toxic Class (ATC) Method
permethrin (ISO)	LC50 Inhalation Dusts and mists	Rat	>0,599 mg/l Highest producible concentration.	4 hours	-

SECTION 11: Toxicological informationAcute toxicity estimates

Route	ATE value
Inhalation (dusts and mists)	200,5 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Test	Reversibility
dipropylene glycol monomethyl ether (isomer mixture)	Skin - Erythema/ Eschar	Rabbit	0	2 hours	OECD 404 Acute Dermal Irritation/ Corrosion	-
	Skin - Oedema	Rabbit	0	2 hours	OECD 404 Acute Dermal Irritation/ Corrosion	-
	Eyes - Iris lesion	Rabbit	0	-	Draize Test (Federal Register, No. 187, § 1500.42)	-
	Eyes - Cornea opacity	Rabbit	0,4	-	Draize Test (Federal Register, No. 187, § 1500.42)	Fully reversible
	Eyes - Redness of the conjunctivae	Rabbit	1,4	-	Draize Test (Federal Register, No. 187, § 1500.42)	Fully reversible
zirkonium carboxylate	Eyes - Oedema of the conjunctivae	Rabbit	0,6	-	Draize Test (Federal Register, No. 187, § 1500.42)	Fully reversible
	Skin - Erythema/ Eschar	Rabbit	0	4 hours	OECD 404 Acute Dermal Irritation/ Corrosion	-
	Skin - Oedema	Rabbit	0	4 hours	OECD 404 Acute Dermal Irritation/ Corrosion	-
	Eyes - Cornea opacity	Rabbit	0	-	OECD 405 Acute Eye Irritation/ Corrosion	-
	Eyes - Iris lesion	Rabbit	0	-	OECD 405 Acute Eye Irritation/ Corrosion	-
	Eyes - Redness of the conjunctivae	Rabbit	1	-	OECD 405 Acute Eye Irritation/ Corrosion	Fully reversible
	Eyes - Oedema of the conjunctivae	Rabbit	0,33	-	OECD 405 Acute Eye Irritation/ Corrosion	Fully reversible

Conclusion/Summary**Skin**

: dipropylene glycol monomethyl ether (isomer mixture):Non-irritating
 propiconazole (ISO):Slightirritant
 3-iodo-2-propynyl butylcarbamate:Non-irritating (OECD404)
 zirkonium carboxylate:Non-irritating
 permethrin (ISO):Non-irritating (Rabbit)

Eyes

: dipropylene glycol monomethyl ether (isomer mixture):Non-irritating
 propiconazole (ISO):Slightirritant
 3-iodo-2-propynyl butylcarbamate:Risk of serious damage to eyes. (OECD405)
 zirkonium carboxylate:Non-irritating
 permethrin (ISO):Non-irritating (Rabbit)

Sensitisation

SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result	Test description
dipropylene glycol monomethyl ether (isomer mixture)	skin	Mammal - species unspecified	Not sensitizing	-
propiconazole (ISO)	skin	Guinea pig	Sensitising	-
3-iodo-2-propynyl butylcarbamate	skin	Guinea pig	Sensitising	OECD 406 Skin Sensitization
zirkonium carboxylate	skin	Guinea pig	Not sensitizing	OECD 406 Skin Sensitization
permethrin (ISO)	skin	Guinea pig	Sensitising	OECD 406 Skin Sensitization

Mutagenicity

Product/ingredient name	Test	Experiment	Result
dipropylene glycol monomethyl ether (isomer mixture)	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: with and without	Negative
	OECD 481 Genetic Toxicology: Saacharomyces Cerevisiae, Mitotic Recombination Assay	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: with and without	Negative
propiconazole (ISO)	Ames test	Experiment: In vitro Subject: Bacteria	Negative
3-iodo-2-propynyl butylcarbamate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
zirkonium carboxylate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with/without	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: with/without	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: with/without	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal Metabolic activation: with/without	Negative

Carcinogenicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
dipropylene glycol monomethyl ether (isomer mixture)	Negative - Inhalation - NOAEL	Rat - Male, Female	300 ppm	2 years; 6 hours per day 5 days per week

Reproductive toxicity

Product/ingredient name	Effects	Species	Dose	Exposure / Test
dipropylene glycol monomethyl ether (isomer mixture)	NOAEL: F1, F2 NOAEL: P	Rat - Male, Female Rat - Male, Female	Inhalation: 1000 ppm Inhalation: 300 ppm	6 hours per day 5 days per week 6 hours per day 5 days per week
zirkonium carboxylate	NOAEL: Foetotoxic NOAEL: Maternal toxicity	Rat - Female Rat - Female	Oral: 100 mg/kg bw/day Oral: 250 mg/kg bw/day	21 days; daily 21 days; daily

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
dipropylene glycol monomethyl ether (isomer mixture)	Negative - Inhalation	Rat - Female	300 ppm	15 days; 6 hours per day daily

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
3-iodo-2-propynyl butylcarbamate	Category 1	Not determined	larynx

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.

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

Product/ingredient name	Result	Species	Dose	Exposure
(2-methoxymethylethoxy) propanol	Sub-acute NOEL Oral	Rat - Male, Female	200 mg/kg	4 weeks; daily
	Sub-acute NOAEL Oral	Rat - Male, Female	1000 mg/kg	4 weeks; daily
	Sub-chronic NOAEL Dermal	Rabbit - Male, Female	2850 mg/kg bw/day	90 days; 5 days per week
	Sub-chronic NOAEL Inhalation Vapour	Rat - Male, Female	1212 mg/m ³	13 weeks; 6 hours per day 5 days per week
3-iodo-2-propynyl butylcarbamate	Chronic NOAEL Oral	Rat	20 mg/kg/d	2 years
	Sub-chronic NOAEL Inhalation Dusts and mists	Rat	1,16 mg/m ³	13 weeks; 6 hours per day 5 days per week
2-ethylhexanoic acid,	Sub-chronic NOAEL Oral	Rat - Male,	3150 to 7080	17 weeks;

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zirconium salt	Sub-chronic NOAEC Inhalation Dusts and mists	Female Rat	mg/kg bw/day >15,4 mg/m ³	Continuous 60 days; 6 hours per day 5 days per week
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Conclusion/Summary : permethrin (ISO):No known significant effects or critical hazards.

Other information : Not available.

Remarks : permethrin (ISO) : Carcinogenicity , Reproduction toxicity , Teratogenicity : No known significant effects or critical hazards. Not mutagenic in a standard battery of genetic toxicological tests.
propiconazole (ISO) : Not mutagenic in a standard battery of genetic toxicological tests. Animal testing did not show any carcinogenic effects.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Test	Result	Species	Exposure
dipropylene glycol monomethyl ether (isomer mixture)	OECD 203 Fish, Acute Toxicity Test	Acute LC50 >1000 mg/l Fresh water	Fish - Poecilia reticulata	96 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute LC50 1919 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test	Acute EC50 >969 mg/l Fresh water	Algae - <i>Selenastrum capricornutum</i>	96 hours
propiconazole (ISO)	OECD 203 Fish, Acute Toxicity Test	Acute LC50 4,3 mg/l	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute EC50 10,2 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	-	Acute EC50 0,51 mg/l	Crustaceans - <i>Mysidopsis bahia</i>	96 hours
	-	Acute IC50 0,76 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
3-iodo-2-propynyl butylcarbamate	OECD 203 Fish, Acute Toxicity Test	Acute LC50 0,067 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute EC50 0,16 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	OECD 201 Alga, Growth Inhibition Test	Acute IC50 0,022 mg/l Fresh water	Algae - <i>Scenedesmus subspicatus</i>	72 hours
	-	Acute EC50 44 mg/l	Bacteria - Activated sludge	3 hours
zirconium carboxylate	OECD 203 Fish, Acute Toxicity Test	Acute LC50 >100 mg/l Fresh water	Fish - <i>Danio rerio</i>	96 hours
	OECD 202 <i>Daphnia</i> sp.	Acute LC50 100 mg/l Fresh water	Daphnia - <i>Danio rerio</i>	48 hours

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permethrin (ISO)	Acute Immobilization Test German Industrial Standard DIN 38412, Part 9	Acute EC50 49,3 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	-	Acute LC50 0,0076 mg/l Fresh water	Fish - <i>Poecilia reticulata</i> Daphnia	96 hours 48 hours
dipropylene glycol monomethyl ether (isomer mixture)	-	Acute EC50 0,00017 mg/l Fresh water	Algae	72 hours
	OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test	Chronic NOEC 969 mg/l Fresh water	Algae - <i>Selenastrum capricornutum</i>	96 hours
3-iodo-2-propynyl butylcarbamate	-	Chronic NOEC 0,05 mg/l	Daphnia - <i>Daphnia magna</i> Fish - <i>Pimephales promelas</i>	21 days 35 days
	OECD 210 Fish, Early-Life Stage Toxicity Test	Chronic NOEC 0,0084 mg/l Fresh water	Algae - <i>Scenedesmus subspicatus</i> Daphnia - <i>Danio rerio</i>	72 hours 21 days
zirkonium carboxylate	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC 0,0046 mg/l Fresh water	Algae - <i>Scenedesmus subspicatus</i> Daphnia - <i>Danio rerio</i>	72 hours 21 days
	OECD 211 Daphnia Magna Reproduction Test German Industrial Standard DIN 38412, Part 9	Chronic EC10 32 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
(2-methoxymethylethoxy) propanol	OECD Echa 301F Ready Biodegradability - Manometric Respirometry Test	75 % - Readily - 28 days	-	-
3-iodo-2-propynyl butylcarbamate	OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test	>80 % - Inherent - 1 days	0,02 to 1 mg/l	adapted and activated sludge micro-organism
2-ethylhexanoic acid, zirconium salt	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	73,82 % - Readily - 28 days	-	-

Conclusion/Summary : IPBC is rapidly transformed in the environment to PBC

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
(2-methoxymethylethoxy) propanol	-	-	Readily
propiconazole (ISO)	Fresh water 28 to 64 days, 25°C	-	Not readily
3-iodo-2-propynyl butylcarbamate	-	-	Readily
2-ethylhexanoic acid, zirconium salt	-	-	Readily
permethrin (ISO)	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
(2-methoxymethylethoxy) propanol	0,0043	-	low
propiconazole (ISO)	3,72	-	low
3-iodo-2-propynyl butylcarbamate	2,8	-	low
permethrin (ISO)	5,95	300	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects

Other adverse effects : No known significant effects or critical hazards.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

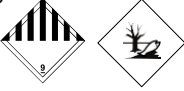
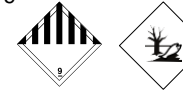


Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. 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.

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	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN)
14.3 Transport hazard class(es)/ Marks	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes	Yes
14.6 Special precautions for user/Additional information	<u>Hazard identification number</u> 90	<u>Hazard identification number</u> 90	<u>Emergency schedules (EmS)</u> F-A, S-F	<u>Passenger aircraft</u> 964: 450 L <u>Cargo aircraft</u> 964: 450 L

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Hazard notes:

Environmentally hazardous substance.
Avoid temperatures below 0 °C.
Avoid heat above +30 °C.
Keep separated from foodstuffs.

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	EC number	CAS no.	Restriction
2-(2-butoxyethoxy)ethanol	203-961-6	112-34-5	55
Naphtha (petroleum), hydrotreated heavy	265-150-3	64742-48-9	3

Other EU regulations

Seveso Directive

This product is controlled under the Seveso III Directive.

Danger criteria

Category
 1: Hazardous to the aquatic environment - Acute 1 or Chronic 1 C9i: Very toxic for the environment

SECTION 15: Regulatory information

15.2 Chemical safety assessment : Not applicable.

SECTION 16: Other information

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
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H361d (Unborn child)	Suspected of damaging the unborn child.
H372 (larynx)	Causes damage to organs through prolonged or repeated exposure. (larynx)
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 3, H331	ACUTE TOXICITY (inhalation) - Category 3
Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Acute 1, H400	ACUTE AQUATIC HAZARD - Category 1
Aquatic Chronic 1, H410	LONG-TERM AQUATIC HAZARD - Category 1
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Repr. 2, H361d (Unborn child)	TOXIC TO REPRODUCTION (Unborn child) - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1
STOT RE 1, H372 (larynx)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (larynx) - Category 1

History

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Version : 1

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet and its Annex [if required according to Regulation (EC) 1907/2006 (REACH)] is to describe the products in terms of their safety requirements. The given details do not imply any guarantee concerning the composition, properties or performance.