

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

TRICHLOROISOCYANURIC ACID (CHLORINE TABLETS / FI-GARD 90 / BI-BLOCK/ MINI / MAXI / TRI-TABS)

Version 3.0

Print Date 2012/09/20

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MSDS code: MBIB001

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

1.1. Product identifier

Trade name : TRICHLOROISOCYANURIC ACID (CHLORINE TABLETS / FI-GARD 90 / BI-BLOCK/ MINI / MAXI / TRI-TABS)
 Substance name : symclosene
 Index-No. : 613-031-00-5
 CAS-No. : 87-90-1
 EC-No. : 201-782-8

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

Use of the Substance/Mixture : At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available.
 Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK & Ireland
 Albion House, Rawdon Park
 GB LS19 7XX Leeds Yeadon
 Telephone : +44 (0) 113 3879 200
 Telefax : +44 (0) 113 3879 280
 E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours): +44 (0) 1865 407333 (N.C.E.C. Culham)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Oxidizing solids	Category 2	---	H272

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Acute toxicity (Oral)	Category 4	---	H302
Serious eye damage/eye irritation	Category 2	---	H319
Specific target organ toxicity - single exposure	Category 3	---	H335
Acute aquatic toxicity	Category 1	---	H400
Chronic aquatic toxicity	Category 1	---	H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Directive 67/548/EEC or 1999/45/EC	
Hazard symbol / Category of danger	Risk phrases
Oxidising (O)	R 8
Harmful (Xn)	R22
	R31
Irritant (Xi)	R36/37
Dangerous for the environment (N)	R50, R53

For the full text of the R-phrases mentioned in this Section, see Section 16.

Most important adverse effects

- Human Health : See section 11 for toxicological information.
- Physical and chemical hazards : See section 9 for physicochemical information.
- Potential environmental effects : See section 12 for environmental information.

2.2. Label elements
Labelling according to Regulation (EC) No 1272/2008

Hazard symbols :



Signal word : Danger

Hazard statements : H272 May intensify fire; oxidiser.
 H302 Harmful if swallowed.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

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	H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements		
Prevention	: P220 P273 P280	Keep/Store away from clothing/ combustible materials. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	: P304 + P340 P301 + P312 P305 + P351 + P338	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Additional Labelling:		
EUH031 Contact with acids liberates toxic gas.		
Hazardous components which must be listed on the label:		
• symclosene		
2.3. Other hazards		
For Results of PBT and vPvB assessment see section 12.5.		

Section 3: Composition/information on ingredients

3.1. Substances

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)		Classification (67/548/EEC)
		Hazard class / Hazard category	Hazard statements	
symclosene				
Index-No.	: 613-031-00-5	Ox. Sol.2	H272	O; R 8
CAS-No.	: 87-90-1	Acute Tox.4	H302	Xn; R22
EC-No.	: 201-782-8	Eye Irrit.2	H319	R31
C&L-No.	: 02-2119752528-30-0000	STOT SE3	H335	Xi; R36/37
	<= 100	Aquatic Acute1	H400	N; R50-R53
		Aquatic Chronic1	H410	

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For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4: First aid measures

4.1. Description of first aid measures

- | | |
|-------------------------|---|
| General advice | : Take off all contaminated clothing immediately. |
| If inhaled | : If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position. Call a physician immediately. |
| In case of skin contact | : Wash off immediately with plenty of water for at least 15 minutes. Call a physician immediately. |
| In case of eye contact | : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible. |
| If swallowed | : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting - seek medical advice. |

4.2. Most important symptoms and effects, both acute and delayed

- | | |
|----------|--|
| Symptoms | : See Section 11 for more detailed information on health effects and symptoms. |
| Effects | : See Section 11 for more detailed information on health effects and symptoms. |

4.3. Indication of any immediate medical attention and special treatment needed

- | | |
|-----------|---|
| Treatment | : Treat symptomatically.
No further information available. |
|-----------|---|

Section 5: Firefighting measures

5.1. Extinguishing media

- | | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : No information available. |

5.2. Special hazards arising from the substance or mixture

- | | |
|--------------------------------------|--|
| Specific hazards during firefighting | : The substance itself does not burn, but in contact with combustible substances it increases the risk of fire and can |
|--------------------------------------|--|

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fuel any existing fire substantially. In case of fire hazardous decomposition products may be produced such as: Hydrogen chloride gas, nitrous gases

5.3. Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)
- Further information : Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise - with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment. Keep away from heat and sources of ignition. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid contact with skin and eyes. Do not breathe dust. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).

6.2. Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and materials for containment and cleaning up

- Methods and materials for containment and cleaning up : Never add water to this product. Use mechanical handling equipment. Keep in suitable, closed containers for disposal.
- Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

For personal protection see section 8.

Section 7: Handling and storage

7.1. Precautions for safe handling

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Advice on safe handling : Keep container tightly closed. Avoid dust formation. Protect from moisture. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid contact with skin, eyes and clothing. Do not breathe dust. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Avoid contact with the skin and the eyes. Do not breathe dust.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in an area equipped with acid resistant flooring. Store in original container.

Advice on protection against fire and explosion : Oxidising; Contact with combustible material may cause fire. Keep away from sources of ignition - No smoking.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Keep in a dry place. Product is hygroscopic.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Keep away from combustible material.

7.3. Specific end use(s)

Specific use(s) : No information available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information : Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : In the case of dust or aerosol formation use respirator with an approved filter.
Recommended Filter type:

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Particle filter:P2

Hand protection

Advice : Wear suitable gloves.
 Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
 Protective gloves should be replaced at first signs of wear.
 Information on suitable glove material is not available at the moment.
 According to experience the following glove materials are suitable for the protection against undissolved solid substances.
 polychloroprene
 Nitrile rubber
 butyl-rubber
 Fluorinated rubber
 Polyvinylchloride

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : Wear suitable protective clothing.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
 Avoid subsoil penetration.
 If the product contaminates rivers and lakes or drains inform respective authorities.
 If material reaches soil inform authorities responsible for such cases.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : tablet
 Colour : white
 Odour : slight chlorine
 Odour Threshold : no data available
 pH : no data available
 Freezing point : no data available

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Boiling point	:	no data available
Flash point	:	not applicable
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapor density	:	no data available
Density	:	1.0 - 1.05 g/cm ³ (20 °C)
Water solubility	:	slightly soluble
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Explosivity	:	no data available
Oxidizing properties	:	no data available

9.2. Other information

No further information available.

Section 10: Stability and reactivity

10.1. Reactivity

Advice : No information available.

10.2. Chemical stability

Advice : No decomposition if stored and applied as directed.
No further information available.

10.3. Possibility of hazardous reactions

Hazardous reactions : Toxic and explosive trichloroamine gas NCl₃ can be released in contact with nitrogen compounds. Contact with acids

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liberates very toxic gas.

10.4. Conditions to avoid

Conditions to avoid : Decomposes on heating. Protect from humidity and keep away from water.

10.5. Incompatible materials

Materials to avoid : Ammonia, organic substances, Keep away from combustible material.

10.6. Hazardous decomposition products

Hazardous decomposition products : nitrous gases, Chlorine, hydrogen chloride

Section 11: Toxicological information

11.1. Information on toxicological effects

Component:	symclosene	CAS-No. 87-90-1
Acute toxicity		
Oral		
LD50	: 490 mg/kg (rat)	
Inhalation		
LC50	: > 50 mg/l (rat; 1 h)	
Dermal		
LD50	: > 2000 mg/kg (rabbit)	
Irritation		
Skin		
Result	: Mild skin irritation (rabbit)	
Eyes		
Result	: Severe eye irritation (rabbit) Risk of serious damage to eyes.	

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Section 12: Ecological information

12.1. Toxicity

Component:	symclosene	CAS-No.
		87-90-1
Acute toxicity		
Fish		
LC50	:	0.3 mg/l (Lepomis macrochirus)
Toxicity to daphnia and other aquatic invertebrates		
EC50	:	0.21 mg/l (Daphnia magna; 48 h)

12.2. Persistence and degradability

Component:	symclosene	CAS-No.
		87-90-1
Persistence and degradability		
Biodegradability		
Result	:	hydrolyses

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Additional ecological information		
Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 13: Disposal considerations

13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special

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disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

Section 14: Transport information

14.1. UN number

2468

14.2. UN proper shipping name

ADR : TRICHLOROISOCYANURIC ACID, DRY
 RID : TRICHLOROISOCYANURIC ACID, DRY
 IMDG : TRICHLOROISOCYANURIC ACID, DRY

14.3. Transport hazard class(es)

ADR-Class : 5.1
 (Labels; Classification Code; Hazard identification No; Tunnel restriction code) 5.1; O2; 50; (E)
 RID-Class : 5.1
 (Labels; Classification Code; Hazard identification No) 5.1; O2; 50
 IMDG-Class : 5.1
 (Labels; EmS) 5.1; F-A, S-Q

14.4. Packaging group

ADR : II
 RID : II
 IMDG : II

14.5. Environmental hazards

Labeling according to 5.2.1.8 ADR : Fish and tree
 Labeling according to 5.2.1.8 RID : Fish and tree
 Labeling according to 5.2.1.6.3 IMDG : Fish and tree
 Classification as environmentally hazardous according to 2.9.3 IMDG : yes

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Classified as "P" according to 2.10 IMDG : no

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

Section 15: Regulatory information

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

:

15.2. Chemical Safety Assessment

no data available

Section 16: Other information

Full text of R-phrases referred to under sections 2 and 3.

R 8	Contact with combustible material may cause fire.
R22	Harmful if swallowed.
R31	Contact with acids liberates toxic gas.
R36/37	Irritating to eyes and respiratory system.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Further information

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates

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only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.

|| Indicates updated section.