

**MATERIAL SAFETY DATA SHEET**

Tenasan

burnusHYCHEM GmbH, D-36396 Steinau, Germany

Revision date: 20.06.2000; Print date: 3.11.2005

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**1. Identification of the substance/preparation and company**

**Product name:** Tenasan

**Producer:** burnusHYCHEM GmbH, Karl-Winnacker-Str. 22, D-36396 Steinau, Germany, phone: +49-6663-976-0

**Information desk:** Chemie- und Gefahrstoffberatung Dr. Reinhard Petzold,  
D-68799 Reilingen, Germany, phone: +49-6205-8215

**Emergency phone no.:** Beratungsstelle für Vergiftungserscheinungen und  
Embryonaltoxikologie, Berlin, Germany,  
Phone: +49-30-19240

**2. Composition / information on ingredients****Hazardous Ingredients:**

CAS-No.	Description according to EC-Guideline	Content	Unit	Symbol	R-Phrases
51580-86-0	Sodium dichloroisocyanurate, dihydrate	> 30	%	Xn Xi N	22 36/37 31 50-53

**3. Hazards identification**

The dust of the product irritates eyes, mucous membranes and respiratory tract.  
Contact with acids liberates toxic chlorine gas.  
Leaking product causes damages to waters due to general pollution and up salting.

**4. First aid measures**

**After inhalation:** Fresh air, seek medical advice.

**After contact with skin:** Remove contaminated clothing, wash skin with plenty of water.

**After contact with eyes:** Immediately flush eyes with plenty of water, holding eyelids apart.  
Obtain medical advice.

**After ingestion:** Give plenty of water to drink, do not induce vomiting without medical instructing.

**5. Fire-fighting measures**

**Suitable extinguishing media:** Product is not inflammable, therefore adjust fire-fighting measures to environment.

**Unsuitable extinguishing materials due to safety reasons:** Do not use dry fire extinguishing agents which contain ammonium compounds.

**Particular dangers due to the substance, its combustion products or released gases:**

Thermal decomposition into  $\text{NCl}_3$ ,  $\text{Cl}_2$ ,  $\text{NO}$ ,  $\text{COCl}_2$ .

**Special protective equipment for fire-fighters:** Wear tightly closed protection suit and self-contained breathing apparatus.

**6. Accidental release measures**

**Personal precautions:** Refer to point no. 8 "Exposure controls/personal protective equipment".

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**Environmental precautions and methods for cleaning up:** Do not discharge into the drains/surface waters/groundwater, collect mechanically, avoid dust formation.

**Additional information:** Product forms with little water gaseous nitrogen trichloride – danger of explosion.

**7. Handling and storage****Handling:**

**Advice on safe handling:** Do not handle the product in connection with ammonia and its chlorides.

**Protective measures against fire and explosions:** Protect product against moisture and heat.

**Storage:**

**Requirements for storage rooms and vessels:** Do not store the product in packaging made of paper or in cardboard boxes.

**Advice on storage compatibility:** Do not store together with acids, amines, urea or oxidizers.

**Further information on storage conditions:** Do not store > 25 °C.

**Storage class according to VCI:** LGK 13 (Germany)

**8. Exposure controls / personal protection**

**Additional advice on system design:** Not available. Refer to point no. 7 "Handling and storage".

**Ingredients with exposure limits relevant to employment (TRGS 900 Germany):**

CAS-No.	Substance	Type	Value	Peak limit	Remarks
7782-50-5	chlorine	MAK	0.5 ppm	=1=	Y

**Personal protective equipment:**

General protective and hygienic measures: Avoid skin and eye contact, do not eat, drink or smoke during work, use precautionary skin protection. Exhaust dust while pouring into another container.

Breathing protection: Use protective mask with combination filter B (grey) / P3.

Hand protection: Protective PVC or neoprene gloves.

Eye protection: Tight goggles.

Body protection: Impermeable protective clothing (PVC or neoprene).

**9. Physical and chemical properties****Appearance:**

Shape: powder

Colour: white

Odour: chlorine-like

**Safety-relevant data:**

Melting point: > 240 °C (decomposition)

Boiling point: not applicable

Flash point: not applicable

pH-value (10 g/l H<sub>2</sub>O); (at T=20°C): 8.6

Flammability: not applicable

Ignition temperature: not applicable

Auto-ignition temperature: not applicable

Oxidizing properties: The concentration of active chlorine amounts to 20 %.

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Explosive properties: Clean and dry product is stable.  
Explosive limits: lower: not applicable  
upper: not applicable

**Additional data:**

Density (at T=20°C): 930 g/l  
Solubility in water (at T=20°C): soluble until absorption point  
Vapour pressure (at T=20°C): not applicable  
Relative vapour density (air=1): not applicable  
Partition coefficient (n-octanol/water): not applicable  
Viscosity (at T=20°C): not applicable  
Solvent separation examination: not applicable  
Solvent content: not applicable  
Evaporation number: not applicable

**10. Stability and reactivity**

Conditions to avoid: Do not store at more than 25 ° C.

Materials to avoid: Ammonia, ammonia compounds, oxidizers, acids.

Hazardous decomposition products: Product forms highly explosive nitrogen trichloride in connection with small amounts of water. Product forms a very toxic and corrosive chlorine gas in connection with acids.

Additional information: None.

**11. Toxicological information**

Acute toxicity data:

LD50 oral (rat) 1800 mg/kg pure sodium dichloroisocyanurate, dihydrate

Sub acute – chronic: No data available.

Human experiences: No data available.

Additional toxicological information: No data available.

**12. Ecological information**

Information on elimination (persistence / degradability):

As a pure inorganic product not biodegradable.

Behaviour in environmental compartments: No data available.

Ecotoxic effects: No data available.

Additional ecological information: No data available.

**13. Advice on disposal**

Disposal of material and not-cleaned containers should be in accordance with local legislation.

Classification according to European catalogue for waste material:

07 06 99 Wastes/trashes n.o.s. (not used).

07 06 01 Aqueous washing liquids and stock solutions (used).

**14. Transport information**

not classified as dangerous goods

**15. Regulatory information**

Labelling according to EEC-guidelines:

Symbol: Xn – harmful

Hazard determining component for labelling: sodium dichloroisocyanurate, dihydrate

R(isk) phrase(s):	22	Harmful if swallowed.
	31	Contact with acids liberates toxic gas.
	36/37	Irritating to eyes and respiratory system.
S(afety) phrase(s):	2	Keep out of the reach of children.
	8	Keep container dry.
	22	Do not breathe dust.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	41	In case of fire and/or explosion do not breathe fumes.
	46	If swallowed, seek medical advice immediately and show this container or label.

Special labelling: none

**National regularity instructions:**

Employment restriction according to § 15 b German GefStoffV: yes

Storage restriction according to § 24 German GefStoffV: yes

Referenced in Annex II German Störfallverordnung: not relevant

Classification according to German VbF: not relevant

German TA Luft, Annex E: Pay attention to the limit value for chlorine.

German water risk class: WGK 3

Additional regularities, prohibitions and decrees: Refer to leaflet M004 of the trade association of the chemical industry.

**16. Other information**

Above information represent the state of our nowadays knowledge and may not be considered as contract affirmations of product properties. These data are not allowed to be changed or transferred to other products. Duplication in unaltered form is allowed.

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