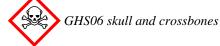
nting date 19.07.2021		Revision: 19.07.2	
		10,000,000	
SECTION 1: Identification of the substance/mixture and of the company/undertaking			
1.1 Product identifier			
Trade name: <u>1,5,8,12-Te</u>	traazadodecane, min. 95%		
<i>Item number:</i> 07-1961 <i>CAS Number:</i> 10563-26-5 <i>EC number:</i> 234-147-9 <i>1.2 Relevant identified us</i> No further relevant inform	tes of the substance or mixture and uses advised against		
• 1.3 Details of the supplies • Manufacturer/Supplier: Strem Chemicals, Inc. 7 Mulliken Way NEWBURYPORT, MA 01 USA info@strem.com	r of the safety data sheet		
Further information obta 1.4 Emergency telephone EMERGENCY: CHEMT During normal opening ti	REC: + 1 (800) 424-9300		



Acute Tox. 3 H301 Toxic if swallowed. Acute Tox. 2 H310 Fatal in contact with skin.

GHS05 corrosion

CHEMICALS

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

· 2.2 Label elements · Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation. · Hazard pictograms



· Signal word Danger

· Hazard-determining components of labelling: 1,5,8,12-Tetraazadodecane, min. 95%

· Hazard statements H301 Toxic if swallowed.

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HEMICALS, INC.

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 19.07.2021

Revision: 19.07.2021

Trade name: 1,5,8,12-Tetraazadodecane, min. 95%

	(Contd. of page 1)
H310 Fatal in o	contact with skin.
H314 Causes se	evere skin burns and eye damage.
· Precautionary	statements
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P231	Handle under inert gas.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P	338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
· 2.3 Other haza	rds

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.1 Chemical characterisation: Substances
- · CAS No. Description
- 10563-26-5 1,5,8,12-Tetraazadodecane, min. 95%
- · Identification number(s)
- EC number: 234-147-9

SECTION 4: First aid measures

• 4.1 Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

- In case of irregular breathing or respiratory arrest provide artificial respiration.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:

Do not induce vomiting; call for medical help immediately.

- Drink plenty of water and provide fresh air. Call for a doctor immediately.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- 5.2 Special hazards arising from the substance or mixture During heating or in case of fire poisonous gases are produced.

(Contd. on page 3)

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Trade name: 1,5,8,12-Tetraazadodecane, min. 95%

· 5.3 Advice for firefighters

· Protective equipment: Mouth respiratory protective device.

SECTION 6: Accidental release measures

• 6.1 Personal precautions, protective equipment and emergency procedures Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions: No special measures required.
6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralising agent.

Dispose contaminated material as waste according to item 13.

- Ensure adequate ventilation.
- 6.4 Reference to other sections
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

SECTION 7: Handling and storage

• 7.1 Precautions for safe handling Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.

- · Handling: Handle under inert gas.
- · Information about fire and explosion protection: Keep respiratory protective device available.
- · 7.2 Conditions for safe storage, including any incompatibilities
- Storage: Store contents under inert gas.
- Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical facilities: No further data; see item 7.
- · 8.1 Control parameters
- Ingredients with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
- Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

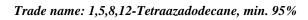
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CHEMICALS, INC.

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Protection of hands:	(Contd. of page
Protective gloves	
Due to missing tests no recommended	neable and resistant to the product/ the substance/ the preparation. ation to the glove material can be given for the product/ the preparation/ th
	nsideration of the penetration times, rates of diffusion and the degradation
varies from manufacturer to manufa	loes not only depend on the material, but also on further marks of quality a cturer. to be found out by the manufacturer of the protective gloves and has to
Eye protection:	
Tightly sealed goggles	
9.1 Information on basic physical a	nd chemical properties
General Information	
Appearance:	
Form:	Liquid
Colour:	Light yellow Amine-like
Odour: Odour threshold:	Amine-like Not determined.
pH-value:	Not determined.
-	Noi determined.
Change in condition Melting point/freezing point:	Undetermined.
Initial boiling point and boiling ra	
Flash point:	Not applicable.
Flammability (solid, gas):	Not determined.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto-ignition temperature:	Not determined.
~ .	Not determined. Product does not present an explosion hazard.
Explosive properties: Explosion limits:	Product does not present an explosion hazard.
Explosive properties: Explosion limits: Lower:	Product does not present an explosion hazard. Not determined.
Explosive properties: Explosion limits:	Product does not present an explosion hazard.
Explosive properties: Explosion limits: Lower: Upper:	Product does not present an explosion hazard. Not determined.
	Product does not present an explosion hazard. Not determined. Not determined. Not determined.
Explosive properties: Explosion limits: Lower: Upper: Vapour pressure:	Product does not present an explosion hazard. Not determined. Not determined.
Explosive properties: Explosion limits: Lower: Upper: Vapour pressure: Density at 20 °C: Relative density Vapour density	Product does not present an explosion hazard. Not determined. Not determined. Not determined. 0.952 g/cm ³
Explosive properties: Explosion limits: Lower: Upper: Vapour pressure: Density at 20 °C: Relative density	Product does not present an explosion hazard. Not determined. Not determined. 0.952 g/cm ³ Not determined.
Explosive properties: Explosion limits: Lower: Upper: Vapour pressure: Density at 20 °C: Relative density Vapour density	Product does not present an explosion hazard. Not determined. Not determined. 0.952 g/cm ³ Not determined. Not determined. Not determined.

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Trade name: 1,5,8,12-Tetraazadodecane, min. 95%

	(Contd. o	of page 4
· Partition coefficient: n-octanol/water:	Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	0.0 %	
VÕC (EC)	0.00 %	
· 9.2 Other information	No further relevant information available.	

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known.

• 10.4 Conditions to avoid No further relevant information available.

- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- Acute toxicity

Toxic if swallowed. Fatal in contact with skin.

· LD/LC50 values relevant for classification:

Oral LD50 1200 mg/kg (rat)

Dermal LD50 190 mg/kg (rabbit)

- · Primary irritant effect:
- · Skin corrosion/irritation
- Causes severe skin burns and eye damage.
- · Serious eye damage/irritation
- Causes severe skin burns and eye damage.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.

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Trade name: 1,5,8,12-Tetraazadodecane, min. 95%

- · 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes: Must not reach sewage water or drainage ditch undiluted or unneutralised.
- · 12.5 Results of PBT and vPvB assessment

• **PBT:** Not applicable.

· vPvB: Not applicable.

- · 12.6 Other adverse effects No further relevant information available.
- **SECTION 13: Disposal considerations**

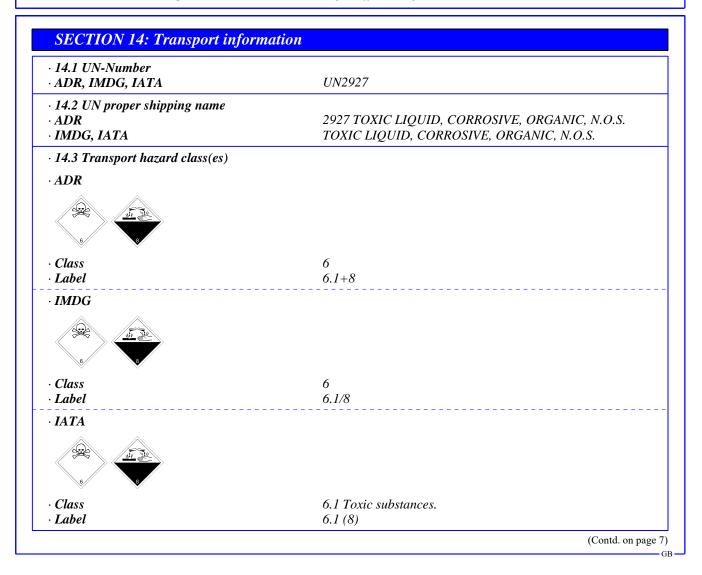
· 13.1 Waste treatment methods

· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

• *Recommendation:* Disposal must be made according to official regulations.





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Trade name: 1,5,8,12-Tetraazadodecane, min. 95%

	(Contd. of page
14.4 Packing group	
ADR, IMDG, IATA	II
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
EMS Number:	F-A, S-B
Stowage Category	В
Stowage Code	SW2 Clear of living quarters.
14.7 Transport in bulk according to Ann	ex II of
Marpol and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	.1L
Excepted quantities (EQ)	Code: E4
	Maximum net quantity per inner packaging: 1 ml
	Maximum net quantity per outer packaging: 500 ml
IMDG	
Limited quantities (LQ)	.1L
Excepted quantities $(\widetilde{E}Q)$	Code: E4
· · · ~	Maximum net quantity per inner packaging: 1 ml
	Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 2927 TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S 6.1 (8), II

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I Substance is not listed.

· Seveso category H2 ACUTE TOXIC

• Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

• REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

• 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Technical Department.

· Contact: Technical Director

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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CHEMICALS, INC.

Revision: 19.07.2021

Trade name: 1,5,8,12-Tetraazadodecane, min. 95%

CAS: Chemical Abstracts Service (division of the American Chemical Society) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Acute Tox. 3: Acute toxicity – Category 3 Acute Tox. 2: Acute toxicity – Category 2 Skin Corr. 1B: Skin corrosion/irritation – Category 1B (Contd. of page 7)

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