

# 5-Ethylthio-1H-Tetrazole

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Issue date: 6/29/2016 Revision date: 7/11/2023

Supersedes version of: 6/27/2023 Version: 2.2

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

#### 1.1. Product identifier

Product form	: Substance
Trade name	: 5-Ethylthio-1H-Tetrazole
EC-No.	: 618-305-8
CAS-No.	: 89797-68-2
Product code	: NC-0107
Type of product	: Synthesis Reagent
Formula	: C3H6N4S
Product group	: End product

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

##### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Laboratory chemical
Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Laboratory chemicals Substance manufacture
Function or use category	: Laboratory chemicals

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

emp Biotech GmbH  
Robert-Rössle-Str. 10  
13125 Berlin - Deutschland  
T +49 (0)30 94 89 22 01 (Monday-Friday, 9:00 am-5:00 pm) - F +49 (0)30 94 89 32 01  
[info@empbiotech.com](mailto:info@empbiotech.com) - [www.empbiotech.com](http://www.empbiotech.com)

#### 1.4. Emergency telephone number

Emergency number	: Giftnotruf Berlin +49 30 30686700 (Beratung in Deutsch), 24 Stunden, 7 Tage/Woche; International: INFOTRAC +1-352-323-3500 (Phone) or in the US 800-535-5053 (toll-free), 24 hours/day, 7 days/week
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 3	H335

Full text of hazard classes, H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Warning

Hazard statements (CLP)

: H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.

Precautionary statements (CLP)

: P261 - Avoid breathing dust, fume, gas, spray, vapours, mist.

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P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

EUH-statements : EUH044 - Risk of explosion if heated under confinement.

### Labelling according to Directive 67/548/EEC or 1999/45/EC

#### 2.3. Other hazards

Other hazards which do not result in classification : This substance / mixture does not contain any components of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

## SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
5-Ethylthio-1H-Tetrazole	(CAS-No.) 89797-68-2 (EC-No.) 618-305-8	≤ 100

Full text of H-statements: see section 16

#### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. Consult a doctor. Show this safety data sheet to the doctor in attendance.

First-aid measures after inhalation : Move person to fresh air and ensure comfortable breathing.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if possible. Continue rinsing.

First-aid measures after ingestion : Drink water immediately (max. 2 cups). Get medical advice/attention.

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

Symptoms/effects : The most important known symptoms and effects are described on the label (see 2.2) and / or in section 11.

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

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

No additional information available

## SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : There are no extinguishing agent restrictions for this substance.

#### 5.2. Special hazards arising from the substance or mixture

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Risk of explosion if heated under confinement.

Hazardous decomposition products in case of fire : Carbon oxides. Nitrous gases (NOx). Sulphur oxides. Combustible. Explosive decomposition possible on heating.  
Avoid shock and friction.  
In the event of decomposition: danger of explosion!  
Risk of dust explosion.  
Development of hazardous combustion gases or vapours possible in the event of fire.

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### 5.3. Advice for firefighters

- Firefighting instructions : Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.  
. DO NOT fight fire when fire reaches explosives. Evacuate area.
- Protection during firefighting : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. No open flames. No smoking. Use special care to avoid static electric charges.

#### 6.1.1. For non-emergency personnel

- Protective equipment : For personal protection see section 8.
- Emergency procedures : Do not breathe dust. Avoid substance contact. Ensure adequate ventilation, observe emergency procedures, consult an expert. Evacuate area.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4. Reference to other sections

Information on exposure controls/personal protective equipment and on Instructions for disposal can be found in sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Hazardous waste due to potential risk of explosion.
- Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust, vapours, mist. Keep away from sources of ignition - No smoking. For precautions see section 2.2.
- Hygiene measures : Wash hands and face thoroughly after handling. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep container tightly closed in a dry, well-ventilated place. Keep away from heat and sources of ignition. Observe national regulations.
- Storage temperature : 2 – 8 °C
- Storage area : Storage class (TRGS 510): See section 15.1.2.

### 7.3. Specific end use(s)

BAM, 438. List of storage group assignments of other explosive substances (nitrocellulose preparations, preparations of organic peroxides and other explosive substances) from April 10, 2003.

2. SprengV: storage group II (substance group C). Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 5-Ethylthio-1H-Tetrazole (89797-68-2)

Germany	Contains no substances with occupational exposure limits
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### 8.2. Exposure controls

#### Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Hand protection:

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact-material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Splash contact-material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

#### Eye protection:

Wear closed safety glasses. EN 166. Face shield. Use face shield for larger quantities.

#### Skin and body protection:

Wear fire/flammable resistant/retardant clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection:

Required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards:

DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.



#### Environmental exposure controls:

Do not let product enter drains. Avoid creating or spreading dust.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: White to light yellow.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 72 – 80 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: Type C
Flammability	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Risk of explosion if heated under confinement.
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Risk of explosion if heated under confinement. The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Risk of explosion by shock, friction, fire or other sources of ignition. Direct sunlight. Heat.

### 10.5. Incompatible materials

Strong oxidizing agents, Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

In the event of fire: see section 5.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Inhalation: May cause respiratory irritation. - Respiratory system
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Other information	: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

#### 5-Ethylthio-1H-Tetrazole (89797-68-2)

Persistence and degradability	Not established.
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### 12.3. Bioaccumulative potential

#### 5-Ethylthio-1H-Tetrazole (89797-68-2)

Bioaccumulative potential	Not established.
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### 12.4. Mobility in soil

No additional information available

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### 12.5. Results of PBT and vPvB assessment

#### 5-Ethylthio-1H-Tetrazole (89797-68-2)

Results of PBT assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods




Waste treatment methods : Product residues are to be disposed of in compliance with national and regional regulations dispose. Keep chemicals in original containers. Not with other waste mix. Uncleaned containers are to be treated according to the product. Pay attention to the waste policy 2008/98/EG.

Additional information : Hazardous waste due to potential risk of explosion.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number</b>		
3224	3224	3224
<b>14.2. UN proper shipping name</b>		
SELF-REACTIVE SOLID TYPE C (5-Ethylthio-1H-tetrazole)	SELF-REACTIVE SOLID TYPE C (5-Ethylthio-1H-tetrazole)	Self-reactive solid type C (5-Ethylthio-1H-tetrazole)
<b>14.3. Transport hazard class(es)</b>		
4.1	4.1	4.1
		
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

### 14.6. Special precautions for user

#### - Overland transport

Tunnel restriction code (ADR) : D

#### - Transport by sea

No data available

#### - Air transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

5-Ethylthio-1H-Tetrazole is not on the REACH Candidate List

5-Ethylthio-1H-Tetrazole is not on the REACH Annex XIV List

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Seveso Information : Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : SELF-REACTIVE SUBSTANCES AND MIXTURES AND ORGANIC PEROXIDES

### 15.1.2. National regulations

#### Germany

Regulatory reference : WGK 3, Highly hazardous to water  
Storage class (LGK, TRGS 510) : LGK 4.1A - Other potentially explosive hazardous substances  
Employment restrictions : According to 2. SprengV, the product is classified as an explosive of storage group II (Roman two).  
Take note of employment restrictions (94/33/EC) on the protection of young people at work.  
Explosives Act (SprengG) Affected: C, II.  
Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

### 15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.  
Other information : None.

Full text of H- and EUH-statements:

EUH044	Risk of explosion if heated under confinement.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

MSDS (Reach Anhang II) EMP

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*