

1. Identification of the substance / mixture and of the company / undertaking

1.1 Product identifier

Product name: Adamantane
CAS-No.: 281-23-2
EC-No.: 206-001-4

1.2 Relevant identified uses of the substance or mixture

Identified use: Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Company: NETZSCH-Gerätebau GmbH
Wittelsbacherstraße 42
95100 Selb / Germany

Customer service Phone: +49 9287 881-555

1.4 Emergency Phone: +49 9287 881-174 (during office hours)

Fax: +49 9287 881-505

E-mail Address: service@ngb.netzsch.com

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Aquatic Acute 1 H400 Very toxic to aquatic life.

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:



Signalword: Warning

Hazard statements: H400 Very toxic to aquatic life.

Precautionary statements: P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/container in an approved manner.

Additional information: -

2.3 Other hazards

All chemicals are potentially dangerous.
They are therefor only be handled by specially trained personnel with the necessary care.

Results of PBT- und vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3. Composition / information on ingredients

3.1 Chemical characterization:

Substances

CAS-No. Description: 281-23-2 Tricyclo[3.3.1.1^{3,7}]decane

Identification number(s):

EC number: 206-001-4
Formula: C₁₀H₁₆
Molar mass [g/mol]: 136,24

4. First aid measures

4.1 Description of first aid measures

General information: Consult a physician. Show this safety data sheet to the doctor in attendance. Remove any clothing soiled by the product.

After inhalation: Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact: Wash off with soap and plenty of water.
If skin irritation continues, consult a doctor.

After eye contact: To be sure rinse opened eye under running water for at least 15 minutes. Consult a physician.

After swallowing: Rinse out mouth and then drink water.
Consult a physician.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Physician should be notified; symptomatic treatment.

5. Fire-Fighting measures

5.1 Extinguishing agents

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

In the event of fire development of hazardous combustion gases or vapours possible.

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.
Wear fully protective suit.

Additional information: Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment.
Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.
Do not allow to enter sewers / ground water or penetrate the soil.
Keep contaminated washing water and dispose of appropriately.

6.3 Methods and material for containment and cleaning up

Pick up mechanically and arrange disposal without creating dust.
Dispose of the material collected according to regulations.

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.

7. Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation / exhaustion at the workplace.

Information about fire and explosion protection:

No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be safe storage, including any incompatibilities:	No special requirements.
Information about storage in one common storage facility:	Store away from foodstuffs.
Further information about storage conditions:	None.
Recommended storage temperature:	15 - 25 °C

7.3 Specific end use(s)

Use in the laboratory.

8. Exposure controls / personal protection

Additional information about design of technical facilities:	No further data; see item 7.
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8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	Not required.
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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.
Individual protection measures:	Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.
Respiratory protection:	Required when dusts are generated. Filter P2 (colour code: white)
Protection of hands:	Protective gloves: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Material: Nitrile, neoprene, natural rubber or PVC.
Eye protection:	Tightly sealed goggles
Body protection:	Protective work clothing

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

<u>Appearance</u> Form: Colour:	Crystalline powder White
Odour:	Not determined
Odour threshold:	No information available.
pH-value:	No information available.
<u>Change in condition</u> Melting point / Melting range: Boiling point / Boiling range:	266 - 272°C Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Product is not flammable.
Ignition temperature:	287 °C
Decomposition temperature:	No information available
Self-igniting:	No information available
Danger of explosion:	Product does not present an explosion hazard.
<u>Explosion limits</u> Lower: Upper:	No information available. No information available.
Oxidizing properties:	No information available.
Vapour pressure:	No information available.
Density at 20°C:	0.33 g/cm ³
Relative density:	No Information available.
Vapour density:	No Information available.
Evaporation rate:	No Information available.
Solubility in / Miscibility with water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol / water):	No information available
<u>Viscosity</u> Dynamic: Kinematic:	No information available No information available

9.2 Other information

Adamantane is easily sublimable.

10. Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and preparations: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

No information available.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

No strong oxidizing agents.

10.6 Hazardous decomposition products

In case of fire: see item 5. CO/CO₂

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD / LC50 values relevant for classification:

Quantitative data on the toxicity of this product are not available.

Primary irritant effect

Skin:

May be hazardous to health if absorbed through the skin. May cause skin irritation.

Eyes:

Mild eye irritation.

Inhalation:

May be hazardous to health if inhaled. May cause irritation to the respiratory tract.

Ingestion:

May be harmful if swallowed.

Sensitization:

No sensitizing effects known.

CMR effects

Germ cell mutagenicity:

No information available.

Carcinogenicity:

No information available.

Reproductive toxicity:

No information available.

Aspiration hazard:

No information available.

Specific target organ toxicity – single exposure:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity – repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:

We have no description of any toxic symptoms.

Further information:

Further hazardous properties cannot be excluded.

The product should be handled with the usual care as necessary for chemicals.

12. Ecological information

12.1 Toxicity

Aquatic toxicity

Fish toxicity	
LC ₅₀	0.285 mg/l/96 h (Pimephales promelas)

12.2 Persistence and degradability

Persistence: Insoluble in water.

Degradability: Contains substances which are known to be hazardous to the environment or which are not broken down in wastewater treatment plants.

12.3 Bioaccumulative potential

The substance may have a certain potential for bioaccumulation.

12.4 Mobility in soil

Do not allow spilled product to infiltrate into the ground. Due to the low level of water solubility, presumably not mobile in the environment.

Ecotoxicological effects

Remark: Do not allow to enter waters, waste water, or soil!
Also poisonous for fish and plankton in water bodies.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects Very toxic to aquatic life

13. Disposal considerations

13.1 Waste treatment methods







Recommendation: Dispose of residual amounts and non-reusable solutions in accordance with local legal regulations. Waste codes must be assigned by the user based on the application for which the product was used.

Waste code must be classified as hazardous.

Uncleaned packaging

Recommendation: Disposal same as for unused product.

14. Transport information

	ADR	IMDG	IATA
14.1 UN-Number	UN3077	UN3077	UN3077
14.2 UN proper shipping name	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tricyclo [3.3.1.1. 3,7] decane)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tricyclo [3.3.1.1. ^{3,7}] decane), MARINE POLLUTANT	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (tricyclo [3.3.1.1. ^{3,7}] decane)
14.3 Transport hazard class(es) / -label			
14.4 Packing group:	III	III	III
Transport hazard class(es):	9 Miscellaneous dangerous substances and articles.	9 Miscellaneous dangerous substances and articles.	9 Miscellaneous dangerous substances and articles.
Label:	9	9	9
danger symbol:	 	 	 
14.5 Environmental hazards:	yes	yes	yes

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

15. Regulatory information

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

National regulations:

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Other Information

Guarantee

This information has been compiled to the best of our knowledge; however, we make no claim as to its completeness and it is meant to serve only as a guideline. NETZSCH-Gerätebau GmbH disclaims any liability for damages, which may occur in handling or in contact with these chemicals.

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