

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 09.02.2009

Printing date 09.02.2009

1 Identification of substance**Product details**

Trade name

N,N,N',N'-Tetramethylethylenediamine

Stock number:

A12536
L00847

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Zeppelinstrasse 7
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.
Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

Emergency information:

2 Hazards identification

Hazard designation:

C Corrosive
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.
R 20/22 Harmful by inhalation and if swallowed.
R 34 Causes burns.

GHS label elements

**Danger**

2.6/2 - Highly flammable liquid and vapour.

**Danger**3.1/3 - Toxic if swallowed.
3.1/4 - Harmful if inhaled.**Danger**

Prevention:

3.2/1B - Causes severe skin burns and eye damage.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.

Response:

Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see label).
Rinse mouth.

Storage:

Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO₂, powder or water spray.
Store in a well-ventilated place. Keep cool.

Disposal:

Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.**3 Composition/information on ingredients**

Chemical characterization:

Designation: (CAS#)

N,N,N',N'-Tetramethylethylenediamine (CAS# 110-18-9), 100%

Identification number(s):

EINECS Number:

203-744-6

Index number:

612-103-00-3

4 First aid measuresGeneral information
After inhalationInstantly remove any clothing soiled by the product.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measuresSuitable extinguishing agents
Special hazards caused by the material, its products of combustion or flue gases:CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Protective equipment:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Wear self-contained breathing apparatus.
Wear full protective suit.**6 Accidental release measures**

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Measures for cleaning/collecting:

Use neutralizing agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Keep away from ignition sources.(Contd. on page 2)
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Trade name **N,N,N',N'-Tetramethylethylenediamine****Additional information:**

See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

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7 Handling and storage**Handling****Information for safe handling:**

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

Storage**Requirements to be met by storerooms and containers:**

Store in cool location.

Information about storage in one common storage facility:

Store away from oxidizing agents.
Do not store together with acids.

Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

Not required.

Additional information:

No data

Personal protective equipment**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Breathing equipment:**Protection of hands:****Material of gloves**

Impervious gloves
Not determined
Safety glasses
Tightly sealed safety glasses.

Penetration time of glove material**Eye protection:**

Face protection

Full face protection

Protective work clothing.

Body protection:**9 Physical and chemical properties:****General Information**

Form: Liquid
Colour: Colourless
Smell: Amine-like

Change in condition

Melting point/Melting range: -55°C
Boiling point/Boiling range: 120-122°C
Sublimation temperature / start: Not determined

Flash point: 17°C**Ignition temperature:** 150°C**Decomposition temperature:** Not determined**Critical values for explosion:**

Lower: 9.08 Vol %
Upper: 0.98 Vol %

Steam pressure at 20°C: 21 hPa**Density at 20°C** 0.77 g/cm³**Solubility in / Miscibility with Water:** Fully miscible**pH-value (100 g/l) at 20°C:** 11.3**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

Materials to be avoided:

Oxidizing agents
Acids

Dangerous reactions:

No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide
Nitrous vitriol gases

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	630 mg/kg (mouse)
		>316 mg/kg (qal)
		268 mg/kg (rat)
Dermal	LD50	5390 mg/kg (rabbit)

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Inhalative	LC50/4H	1318 ppm/4H (rat)
Irritation of eyes	severe	750 µg/24H (rabbit)

Primary irritant effect:**on the skin:****on the eye:****Sensitization:****Additional toxicological information:**

Caustic effect on skin and mucous membranes.

Strong caustic effect.

No sensitizing effect known.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

13 Disposal considerations**Product:****Recommendation**

Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

Consult state, local or national regulations for proper disposal.

Uncleaned packagings:**Recommendation:**

Disposal must be made according to official regulations.

Recommended cleaning agent:

Water, if necessary with cleaning agent.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)****ADR/RID-GGVS/E Class:**

3 (F1) Flammable liquids.

Kemler Number:

33

UN-Number:

2372

Packaging group:

II

Label

3

Designation of goods:

2372 1,2-DI-(DIMETHYLAMINO) ETHANE

Limited quantities (LQ)

LQ4

Transport category

2

Tunnel restriction code

D/E

Maritime transport IMDG/GGVSea:**IMDG/GGVSea Class:**

3

UN Number:

2372

Label

3

Packaging group:

II

Correct technical name:

1,2-DI-(DIMETHYLAMINO) ETHANE

Air transport ICAO-TI and IATA-DGR:**ICAO/IATA Class:**

3

UN/ID Number:

2372

Label

3

Packaging group:

II

Correct technical name:

1,2-DI-(DIMETHYLAMINO) ETHANE

UN "Model Regulation":

UN2372, ,2-DI-(DIMETHYLAMINO) ETHANE, 3, II

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**C Corrosive
F Highly flammable**Risk phrases:**11 Highly flammable.
20/22 Harmful by inhalation and if swallowed.
34 Causes burns.**Safety phrases:**16 Keep away from sources of ignition - No smoking.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).**National regulations****Information about limitation of use:**Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.**Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

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16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Paul V. Connolly

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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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