

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 22.10.2012

Printing date 01.07.2013

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

1.1 Product identifier

Trade name

1,3-Dinitrobenzene, 99% (dry wt.), may contain up to ca 5% water

Stock number:

A11518

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

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
 A Johnson Matthey Company
 Zeppelinstr. 7b
 76185 Karlsruhe / Germany
 Tel: +49 (0) 721 84007 280
 Fax: +49 (0) 721 84007 300
 Email: tech@alfa.com
 www.alfa.com
 Product safety Tel + +049 (0) 7275 988687-0
 Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
 Poison Information Center Mainz
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

Informing department:

1.4 Emergency telephone number:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 1 H310 Fatal in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T+; Very toxic

R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.



N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R33: Danger of cumulative effects.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

The product is classified and labelled according to the CLP regulation.

GHS06, GHS08, GHS09

Danger

Hazard-determining components of labelling:

Hazard statements

1,3-Dinitrobenzene

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P320 Specific treatment is urgent (see on this label).

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Dangerous components:

CAS: 99-65-0

EINECS: 202-776-8

1,3-Dinitrobenzene

T+ R26/27/28; N R50/53

R33

Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; STOT RE 2, H373; Aquatic Acute 1, H400; Aquatic Chronic 1, H410

95,0%

Additional information

None known.

Non-Hazardous Ingredients

CAS: 7732-18-5

EINECS: 231-791-2

Water

5,0%

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Instantly remove any clothing soiled by the product.

Remove breathing apparatus only after soiled clothing has been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

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After inhalation	Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.	(Contd. of page 1)
After skin contact	Seek immediate medical advice. Instantly wash with water and soap and rinse thoroughly.	
After eye contact	Seek immediate medical advice.	
After swallowing	Rinse opened eye for several minutes under running water. Then consult doctor.	
4.2 Most important symptoms and effects, both acute and delayed	Do not induce vomiting; instantly call for medical help.	
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	CO ₂ , extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture	If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Nitrogen oxides (NO _x)
5.3 Advice for firefighters Protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.

SECTION 6: Accidental release measures	
6.1 Personal precautions, protective equipment and emergency procedures	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
6.2 Environmental precautions:	Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up:	Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.
Prevention of secondary hazards:	No special measures required.
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 information on disposal.

SECTION 7: Handling and storage	
7.1 Precautions for safe handling	Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace. Open and handle container with care.
Information about protection against explosions and fires:	No information known.
7.2 Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and containers: Information about storage in one common storage facility: Further information about storage conditions:	No special requirements. Store away from oxidizing agents. 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. No further relevant information available.
7.3 Specific end use(s)	

SECTION 8: Exposure controls/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.

8.1 Control parameters	
Components with critical values that require monitoring at the workplace:	
99-65-0 1,3-Dinitrobenzene (95,0%)	
PEL (USA)	1 mg/m ³ Skin
REL (USA)	1 mg/m ³ Skin
TLV (USA)	1 mg/m ³ , 0,15 ppm Skin; BEI-M

Ingredients with biological limit values:	
99-65-0 1,3-Dinitrobenzene (95,0%)	
BEI (USA)	1,5 % of hemoglobin blood during or end of shift Methemoglobin (background, nonspecific, semi-quantitative)

Additional information:	No data
8.2 Exposure controls 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. Store protective clothing separately. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Use self-contained respiratory protective device in emergency situations. 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. Impervious gloves Not determined Safety glasses
Breathing equipment:	
Protection of hands:	
Material of gloves	
Penetration time of glove material	
Eye protection:	

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Body protection: Protective work clothing.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Crystalline
 Colour: Pale yellow
 Smell: Not determined
 Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 90 °C
 Boiling point/Boiling range: 297 °C
 Sublimation temperature / start: Not determined

Flash point: 150 °C
 Inflammability (solid, gaseous): Not determined.
 Ignition temperature: Not determined
 Decomposition temperature: Not determined
 Self-inflammability: Product is not selfigniting.

Critical values for explosion:

Lower: Not determined
 Upper: Not determined
 Steam pressure: Not applicable.
 Density at 20 °C: 1,6 g/cm³
 Relative density: Not determined.
 Vapour density: Not applicable.
 Evaporation rate: Not applicable.
 Solubility in / Miscibility with
 Water: Insoluble
 Partition coefficient (n-octanol/water): Not determined.
 Viscosity:
 dynamic: Not applicable.
 kinematic: Not applicable.

Solvent content: Organic solvents: 0,0 %

Solids content: 95,0 %

9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity**10.1 Reactivity****10.2 Chemical stability****Thermal decomposition / conditions to be avoided:****10.3 Possibility of hazardous reactions****10.5 Incompatible materials:****10.6 Hazardous decomposition products:**

No information known.
 Stable under recommended storage conditions.
 No decomposition if used and stored according to specifications.
 Reacts with strong oxidizing agents
 Oxidizing agents
 Carbon monoxide and carbon dioxide
 Nitrogen oxides (NOx)

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity:**

Danger by skin resorption.
 Fatal if inhaled.
 Fatal in contact with skin.
 Fatal if swallowed.
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:**99-65-0 1,3-Dinitrobenzene**

Oral LD50 83 mg/kg (rat)

Skin irritation or corrosion:**Eye irritation or corrosion:****Sensitization:****Germ cell mutagenicity:****Carcinogenicity:****Reproductive toxicity:****Specific target organ system toxicity -****repeated exposure:****Specific target organ system toxicity - single****exposure:****Aspiration hazard:****Additional toxicological information:**

May cause irritation
 May cause irritation
 No sensitizing effect known.
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.
 May cause damage to organs through prolonged or repeated exposure.
 No effects known.
 No effects known.
 To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 Very toxic

SECTION 12: Ecological information**12.1 Toxicity****Aquatic toxicity:****12.2 Persistence and degradability****12.3 Bioaccumulative potential****12.4 Mobility in soil****Ecotoxicological effects:****Remark:****Additional ecological information:****General notes:**

No further relevant information available.
 No further relevant information available.
 No further relevant information available.
 No further relevant information available.
 Very toxic for fish
 Do not allow material to be released to the environment without proper governmental permits.
 Water danger class 3 (Self-assessment): extremely hazardous for water.
 Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
 Danger to drinking water if even extremely small quantities leak into soil.
 Also poisonous for fish and plankton in water bodies.

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May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment**PBT:****vPvB:****12.6 Other adverse effects**

Not applicable.
Not applicable.
No further relevant information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods
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.

SECTION 14: Transport information**UN-Number
ADR, IMDG, IATA**

UN3443

**14.2 UN proper shipping name
ADR
IMDG
IATA**

3443 DINITROBENZENES, SOLID
DINITROBENZENES, SOLID, MARINE POLLUTANT
DINITROBENZENES, SOLID

14.3 Transport hazard class(es)

ADR



**Class
Label
IMDG**

6.1 (T2) Toxic substances.
6.1



**Class
Label
IATA**

6.1 Toxic substances.
6.1



**Class
Label**

6.1 Toxic substances.
6.1

**Packing group
ADR, IMDG, IATA**

II

**14.5 Environmental hazards:
Marine pollutant:**

Symbol (fish and tree)

**14.6 Special precautions for user
Kemler Number:**

Warning: Toxic substances.
60

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC
Code**

Not applicable.

Transport/Additional information:

ADR

Excepted quantities (EQ): E4
Limited quantities (LQ) 500 g
Transport category 2
Tunnel restriction code D/E

UN "Model Regulation": UN3443, DINITROBENZENES, SOLID, 6.1, II**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical Substances**

All ingredients are listed.

Standard for the Uniform Scheduling of Drugs and Poisons

None of the ingredients is listed.

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.
Not applicable

**Classification according to VbF:
Technical instructions (air):**

Class	Share in %
Wasser	5,0
I	95,0

Water hazard class:

Water danger class 3 (Self-assessment): extremely hazardous for water.

Other regulations, limitations and prohibitive regulations**ELINCS (European List of Notified Chemical Substances)**

None of the ingredients is listed.

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients are listed.

REACH - Pre-registered substances

All ingredients are listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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SECTION 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.

Relevant phrases

H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R33	Danger of cumulative effects.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Department issuing data specification sheet:**Abbreviations and acronyms:**

Health, Safety and Environmental Department.
 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 Harmonized System of Classification and Labelling of Chemicals
 VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

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