

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 07.03.2012

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

**2,4-Dinitrophenol, 97%, stab. with 30-35% water**

Stock number:

A15888

**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



GHS02 flame

Flam. Sol. 2 H228 Flammable solid.



GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 3 H311 Toxic 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.

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

T; Toxic

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.



F; Highly flammable

R11: Highly flammable.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

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.

GHS02, GHS06, GHS08, GHS09

Danger

Hazard-determining components of labelling:

Hazard statements

2,4-Dinitrophenol

H228 Flammable solid.

H300 Fatal if swallowed.

H311 Toxic 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.

**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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.

**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:**

51-28-5 2,4-Dinitrophenol  
 T R23/24/25; N R50  
 R33

68,0%

Acute Tox. 2, H300; Acute Tox. 3, H311; Acute Tox. 2, H330; STOT RE 2, H373; Aquatic Acute 1, H400

**Additional information**

None known.

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Trade name **2,4-Dinitrophenol, 97%, stab. with 30-35% water**

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**Non-Hazardous Ingredients**CAS: 7732-18-5  
EINECS: 231-791-2

Water

32,0%

**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.  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
Seek immediate medical advice.  
Instantly wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.  
Rinse opened eye for several minutes under running water. Then consult doctor.  
Do not induce vomiting; instantly call for medical help.

**After inhalation****After skin contact****After eye contact****After swallowing****4.2 Most important symptoms and effects, both acute and delayed****4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents****5.2 Special hazards arising from the substance or mixture**CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Possibly Hydrogen cyanide (HCN)

**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  
Keep away from ignition sources

**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:**

Keep away from ignition sources.  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Keep away from ignition sources.  
See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

**Prevention of secondary hazards:**  
**6.4 Reference to other sections****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:**

Protect against electrostatic charges.

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

**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.  
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:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.  
No data

**Additional information:****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

**Breathing equipment:****Protection of hands:****Material of gloves****Penetration time of glove material**(Contd. on page 3)  
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**Eye protection:** Safety glasses  
Face protection  
**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:** Moist powder  
**Colour:** Yellow  
**Smell:** Not determined  
**Odour threshold:** Not determined.

**pH-value:** Not applicable.**Change in condition**

**Melting point/Melting range:** Not determined  
**Boiling point/Boiling range:** Not determined  
**Sublimation temperature / start:** Not determined  
**Inflammability (solid, gaseous)** Highly flammable.  
**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 at 20 °C:** 23 hPa**Density** Not determined**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:** 68,0 %**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:**

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)

Possibly Hydrogen cyanide (HCN)

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

Danger by skin resorption.

Fatal if inhaled.

Toxic in contact with skin.

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:****51-28-5 2,4-Dinitrophenol**

Oral LD50 30 mg/kg (rat)

**Skin irritation or corrosion:**

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.

**Reproductive toxicity:** May cause damage to organs through prolonged or repeated exposure.**Specific target organ system toxicity - repeated exposure:** No effects known.**Specific target organ system toxicity - single exposure:** No effects known.**Aspiration hazard:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.**Additional toxicological information:** Toxic in contact with skin.

The product shows the following dangers according to the calculation method of the General EC Classification

Guidelines for Preparations as issued in the latest version:

Toxic

**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.**12.4 Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Very toxic for fish**Additional ecological information:****General notes:** Do not allow material to be released to the environment without proper governmental permits.

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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.  
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**

UN1320

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

1320 DINITROPHENOL, WETTED  
DINITROPHENOL, WETTED, MARINE POLLUTANT  
DINITROPHENOL, WETTED

**14.3 Transport hazard class(es)****ADR****Class**

4.1 (DT) Flammable solids, self-reactive substances and solid desensitised explosives.  
4.1+6.1

**Label**  
**IMDG****Class**

4.1 Flammable solids, self-reactive substances and solid desensitised explosives.  
4.1+6.1

**Label**  
**IATA****Class**

4.1 Flammable solids, self-reactive substances and solid desensitised explosives.  
4.1+6.1

**Packing group**  
**ADR, IMDG, IATA**

I

**14.5 Environmental hazards:**  
**Marine pollutant:**

Symbol (fish and tree)

**14.6 Special precautions for user**

Warning: Flammable solids, self-reactive substances and solid desensitised explosives.

**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):****Limited quantities (LQ)****Transport category****Tunnel restriction code**

E0  
0  
1  
B

**UN "Model Regulation":**

UN1320, DINITROPHENOL, WETTED, 4.1 (6.1), I

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical Substances**

7732-18-5 | Water

**Standard for the Uniform Scheduling of Drugs and Poisons**

51-28-5 | 2,4-Dinitrophenol

S4, S6, S7

**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:**

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**

7732-18-5 | Water

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Trade name **2,4-Dinitrophenol, 97%, stab. with 30-35% water****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.  
H311 Toxic 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.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R33 Danger of cumulative effects.

R50 Very toxic to aquatic organisms.

**Department issuing data specification sheet:**

Health, Safety and Environmental Department.

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organization  
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

DE/E