1 Identification of substance

Product details

Trade name:

2,4-Dinitrophenylhydrazine

Stock number:

A14602
L04291

Manufacturer/Supplier:

Alfa Aesar
Shore Road
Port of Heysham Industrial Park
Heysham Lancashire LA3 2XY
United Kingdom

Informing department:

Product safety department.

Emergency information:

Call Carechem 24 at +44 (0) 1865 407333

2 Hazards identification

Hazard designation:

Xn Harmful
F Highly flammable

Information pertaining to particular dangers for man and environment

R 1 Explosive when dry.
R 5 Heating may cause an explosion.
R 11 Highly flammable.
R 22 Harmful if swallowed.

GHS label elements

Danger
2.7/1 - Flammable solid.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see label).
Rinse mouth.
In case of fire: Use for extinction: CO2, powder or water spray.

Storage:

Store locked up.

Disposal:

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

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)
2,4-Dinitrophenylhydrazine (CAS# 119-26-6): 60-70%
Water (CAS# 7732-18-5): Balance

Identification number(s):

EINECS Number:
246-040-1

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

After skin contact

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

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

Protective equipment:

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.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation
Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling
See section 6 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.

(Contd. on page 2)
Trade name: 2,4-Dinitrophenylhydrazine

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

Printing date: 15.06.2009
Revision: 15.06.2009

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.

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.

Breathing equipment:
Use breathing protection with high concentrations.

Eye protection:
Safety glasses

Face protection

Body protection:
Protective work clothing.

9 Physical and chemical properties:

General Information
Form: Powder
Colour: Red
Smell: Not determined

Change in condition
Melting point/Melting range: 200°C (approx)
Boiling point/Boiling range: Not determined
Sublimation temperature/start: Not determined

Flash point: Not applicable

Inflammability (solid, gaseous): Highly flammable.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Danger of explosion: Explosive when dry. Heating may cause an explosion.

Critical values for explosion:
Lower: Not determined
Upper: Not determined

Steam pressure: Not determined

Density: Not determined

Solubility in / Miscibility with
Water: Slightly soluble
Alcohols: Slightly soluble

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

Heat

Dangerous reactions:
Explosive when dry
Can react violently with oxygen rich (oxidizing) material. Explosive.

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 >500 mg/kg (rat)
Irritation of eyes: mild 500 mg/24H (rabbit)

Primary irritant effect:

on the skin: Irritant for skin and mucous membranes.

on the eye: Irritant effect.

Sensitization: No sensitizing effect known.

Other information (about experimental toxicology):
Mutagenic effects have been observed on tests with bacteria.
Mutagenic effects have been observed on tests with laboratory animals.

Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
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.
13 Disposal considerations

Product: 2,4-Dinitrophenylhydrazine
Recommendation: Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.

Uncleaned packagings: Disposal must be made according to official regulations.

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)

ADR/RID-GGVS/E Class: 4.1 (F1) Flammable solids, self-reactive substances and solid desensitised explosives.
Kemler Number: 40
UN-Number: 1325
Packaging group: II
Label: 4.1
Designation of goods: 1325 FLAMMABLE SOLID, ORGANIC, N.O.S. (2,4-Dinitrophenylhydrazine)
Limited quantities (LQ): LG8
Transport category: 2
Tunnel restriction code: E

Maritime transport IMDG/GGSea:

IMDG/GGSea Class: 4.1
UN Number: 1325
Label: 4.1
Packaging group: II
Correct technical name: FLAMMABLE SOLID, ORGANIC, N.O.S. (2,4-Dinitrophenylhydrazine)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 4.1
UN/ID Number: 1325
Label: 4.1
Packaging group: II
Correct technical name: FLAMMABLE SOLID, ORGANIC, N.O.S. (2,4-Dinitrophenylhydrazine)

15 Regulatory information

Designation according to EC guidelines:
Code letter and hazard designation of product:
Xn Harmful F Highly flammable

Risk phrases: 1 Explosive when dry.
5 Heating may cause an explosion.
11 Highly flammable.
22 Harmful if swallowed.

Safety phrases: 7 Keep container tightly closed.
33 Take precautionary measures against static discharges.
36/37 Wear suitable protective clothing and gloves.
43 In case of fire, use water or powdered extinguishing agent.
60 This material and its container must be disposed of as hazardous waste.

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.

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: Zachariah Holt

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