

Example safety data sheet for a substance

SAFETY DATA SHEET

Date of issue: xx/xx/09

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

Identification of the product

Catalogue No: 12345

Product name: 1,2,3-**Chemhazane**

Use of the substance/mixture: Solvent for degreasing mixture

Manufacturer/supplier identification

Company: CHCS Chemicals Ltd
Nowhere Industrial estate
Notown
XY12 3AB
UK
Tel No.: +44 (0)1234 456890
E-mail: jbloggs@chcscem.co.uk

Emergency telephone No.: +44 (0)1234 567800 (08.00-18.00 UK time, weekdays only)

2. Hazards identification

Highly flammable. Irritating to skin. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Mucosal irritation (skin, eyes, respiratory tract) when vapours/aerosols are generated.

- After inhalation of vapours: drowsiness, dizziness, nausea, coughing, vomiting. In high concentrations: respiratory paralysis, unconsciousness, collapse. Inhalation may lead to the formation of oedemas in the respiratory tract.
- After eye contact: local irritation symptoms
- After skin contact: Degreasing effect on the skin, possibly followed by secondary inflammation. Danger of skin absorption.
- After ingestion: gastric pain, gastrointestinal complaints, respiratory paralysis, unconsciousness, collapse. Risk of aspiration upon vomiting.

3. Composition/information on ingredients

Chemical characterization

Hydrocarbon solvent

Product name: 1,2,3-**Chemhazane**

Supply classification: F: R11 Xn: R65 Xi: R38 R67 N: R50, 53

CAS number: 110-82-8

Molecular formula: $\text{CH}_2(\text{CH}_2)_4\text{CH}_2 = 84.16 \text{ g/mol}$

EC-No.: 203-806-3

4. First-aid measures

First aiders – ensure you do not contaminate yourself.

- Eye contact: Irrigate thoroughly with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. If discomfort persists, obtain medical attention.

- Inhalation: Remove from exposure, rest and keep warm. Obtain medical attention for symptoms of difficulty in breathing and wheezing.
- Skin contact: Wash off thoroughly with soap and water. Remove contaminated clothing and wash before re-use. In severe cases, or if a skin effects occur, OBTAIN MEDICAL ATTENTION. Do not use chemical neutralisers.
- Ingestion: Wash out mouth thoroughly with water. Do not induce vomiting. OBTAIN MEDICAL ATTENTION.

Advice to medical professionals:

Treat symptomatically.

5. Fire-fighting measures

Special risks:

Highly flammable. The vapour is heavier than air and may travel a considerable distance to a source of ignition and flashback.

Suitable extinguishing media:

AFFF, foam, dry powder, carbon dioxide. Do not use water jets as the burning liquid may float on the surface.

In case of fire: keep drums, etc., cool by spraying with water.

Only suitably trained personnel should attempt to tackle fires. Do not stay in danger zone without respiratory protective equipment and protective clothing. Prevent fire fighting water entering watercourses or ground-water.

6. Accidental release measures

Wear appropriate protective clothing (see section 8). Stop the leak and shut off all sources of ignition if safe to do so. Inform others to keep at a safe distance. Ensure supply of fresh air in enclosed rooms. Do not allow to enter sewerage system; risk of explosion!

Small spillages(<25 litres): Absorb on an inert absorbent, (e.g. Spillage absorption granules or sand), transfer to a suitable labelled container and arrange removal by a licensed disposal company. Wash site of spillage thoroughly with water and detergent.

Large spillages(>25 litres): Liquids should be contained with sand or earth. Absorbed spilled substance should be placed in suitable containers for recovery or disposal via a licenses disposal company. Containers should be sealed and labelled properly. Any residues should be treated as for small spillages.

Disperse residual vapour by thorough ventilation of the area using flameproof equipment before allowing persons to approach.

7. Handling and storage

Handling:

Sources of ignition should be excluded from the area. Take precautionary measures against static discharges. Use suitable local exhaust ventilation as necessary. Do not inhale substance. Avoid contact with skin and eyes. Beware of vapour build up in confined spaces. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before re-use. Use appropriate containment to avoid environmental contamination.

Unsuitable working materials: rubber, various plastics.

Storage:

Store at room temperature (15 to 25°C recommended). Keep container tightly closed and protected from direct sunlight and moisture in a well ventilated area. Store small containers in suitable flammable liquid storage cabinets when not in use. Larger drums (>50l) should be kept in purpose-built stores. When necessary, provide an adequate bund.

8. Exposure controls/personal protection

UK Exposure Limits:

Monitoring of the workplace should be carried out in accordance with UK Workplace Exposure Limits (EH40 etc) or other data as indicated below:-

WEL, 1,2,3-Chemhazane:
Long-term: 700 mg/m³ (200 ppm) (IOELV)

DNEL (estimated): 1.5mg/kg/day

Personal protective equipment:

As appropriate to the situation and the quantity handled. Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation. Always check applicability with your supplier of protective equipment.

- Respirator: Air purifying respirator (type A) if vapours are likely to be evolved.
- Ventilation: Extraction hood, flameproof
- Gloves: Nitrile, Viton™, PE/EVAL (Silver Shield). Gloves subject to permeation or any sign of degradation must be removed and replaced immediately. Change gloves regularly. However, since glove performance is governed by many variables, it is strongly recommend that specialist advice on the selection and use of protective gloves is sought. Note: Break-through times can vary depending on thickness, use and source.
- Eye Protection: Goggles or face-shield (EN166)
- Other Precautions: Plastic apron, sleeves, boots - if handling large quantities

9. Physical and chemical properties

General information:

Form: Free flowing liquid
Colour: colourless
Odour: petrol-like

Health, safety and environmental information:

Freezing point	6.5°C
Boiling temperature	80.7°C
Density(g/ml)	0.778
Vapour pressure	103 hPa (20°C)
Relative vapour density:	2.90
Solubility in water	Practically insoluble (0.5g/l, 20°C)
Flash point	-20°C (closed cup)
Explosion limits: lower:	1.3 %v/v
upper:	8.4 %v/v
Auto-ignition temperature	260°C
Viscosity:	0.98 mPa.s (20°C)
Log P(o/w):	3.44

10. Stability and reactivity

The product is stable under normal conditions of use.

Unsuitable working materials: rubber, various plastics.

Conditions to be avoided: Heating with an open flame.

Substances to be avoided: strong oxidizing agents, nitrogen oxides.
The possibility of reaction with other substances cannot be excluded.

Hazardous decomposition products: Incomplete combustion produces soot and oxides of carbon.

11. Toxicological information

- After inhalation of vapours: drowsiness, dizziness, nausea, coughing, vomiting. In high concentrations: respiratory paralysis, unconsciousness, collapse. Inhalation may lead to the formation of oedemas in the respiratory tract.
 - After eye contact: local irritation symptoms
 - After skin contact: Degreasing effect on the skin, possibly followed by secondary inflammation. Danger of skin absorption.
 - After ingestion: gastric pain, gastrointestinal complaints, respiratory paralysis, unconsciousness, collapse. Risk of aspiration upon vomiting.
- When vapours/aerosols are generated: mucosal irritation (skin, eyes, respiratory tract).

Further data

Oral LD₅₀ > 12000 mg/kg, rat.

Dermal LD₅₀ >2000mg/kg, rabbit.

Inhalation, 4 hr LC₅₀ 14mg/l, rat.

Skin contact – mild irritation

Eye contact – mild irritation, not classified as irritant

Sensitisation potential – not considered to be a potential sensitiser

Repeat contact toxicology – NOEC > 4 mg/l over 50 days

Mutagenicity – Negative results in various in-vitro and in-vivo studies

Metabolism – Adsorption possible by inhalation, ingestion and through dermal contact. Metabolises to chemhazanone that then undergoes further transformation and is ultimately excreted.

CMR Assessment – No known data suggesting carcinogenic, mutagenic or reproductive toxicity effects.

Effects on humans – many workplace studies reported with no known adverse effects resulting from normal handling

12. Ecological information

Endangers drinking-water supplies if allowed to enter soil or water. Can change the flavour characteristics of fish protein.

Further ecological data:

Bioaccumulation potential: Estimated BCF approximately 250. Not considered bioaccumulative.

Biodegradation: poorly biodegradable, < 10% over 28 days

Henry constant: Log 4.3 (19,400 Pa m³/mol). Will evaporate from water

Fish toxicity: 96hr LC₅₀ - Range of 10 - 100mg/l, various species, published data

Daphnia toxicity: 48 hr EC₅₀ - Range 1 – 10 mg/l, published data

Algal growth inhibition: 72 hr IC₅₀ – Range 10 – 100 mg/l, published data

Remarks:

Not considered to be vPvB or PBT, but will not easily biodegrade. Risk of formation of explosive vapours above water surface.

13. Disposal considerations

Chemical residues are generally classified as hazardous waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a licensed

chemical disposal company. Rinse out empty containers thoroughly before returning for recycling. Washing liquid should not be allowed to enter drains, but be disposed of as hazardous waste.

When recovery and recycling is not possible, incineration in a high temperature incinerator is the recommended method of disposal.

Do not allow to enter drinking water supplies, waste water, or soil.

14. Transport information

UN-No.: 1138

Class: 3

Packaging group: II

Proper shipping name: 1,2,3-CHEMHAZANE

Other requirements:

Air: No special requirements

Sea: Ems: F-E S-D.

Road: EAC: 3YE

Marine pollutant?: No

Hazard Id. No: 33

15. Regulatory information

Labelling according to EC directives

Symbol(s) and danger statements: F Xn N Highly flammable. Harmful. Dangerous for the environment.

R-phrases: R11-38-65-67-50/53

Highly flammable. Irritating to skin. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases: S9-16-25-33-60-61-62

Keep container in a well-ventilated place. Keep away from sources of ignition - No smoking. Avoid contact with eyes. Take precautionary measures against static discharges. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety data sheets. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Additional statements to be shown on labels: EC label

EC-No.: 203-806-2

REACH Registration number: Not yet assigned

Local Regulations

Within the UK, the use of this material must be assessed under the Dangerous Substances and Explosive Atmospheres (DSEAR) Regulations.

Within the UK, the use of this material must be assessed under the Control of Substances Hazardous to Health (COSHH) regulations.

16. Other information

Training and related advice: This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

References: CPL Table 3.2 of Annex VI.
EH40 Workplace Exposure Limits
Various published literature sources
Suppliers' safety data sheets
Internal company data.
UN Recommendations on the Transport of Dangerous Goods

Modal transport Regulations

Revision.

Supersedes edition of: 22/12/03

Reason for alteration: Changes in Section : 2,11,15

Additional changes in Sections :

2 and 3 – reversal of section numbers

11 (additional toxicity data relating to dermal exposure)

Not to be supplied to the general public.

Training recommendations: Use only by skilled operators trained in handling hydrocarbon solvents

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