

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.05.2011

Revision: 27.05.2011

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

Product identifier	
Trade name	<u>Diethylcarbamyl chloride</u>
Stock number:	A15701
CAS Number:	88-10-8
EINECS Number:	201-798-5
Index number:	607-229-00-0
Relevant identified uses of the substance or mixture and uses advised against	
Sector of Use	SU24 Scientific research and development
Details of the supplier of the safety data sheet	
Manufacturer/Supplier:	Alfa Aesar GmbH & Co.KG A Johnson Matthey Company Benzstrasse 3 D-76185 Karlsruhe / Germany Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300 Email: tech@alfa.com www.alfa.com
Informing department:	Product safety department.
Emergency telephone number:	Product Safety Department +049 (0) 7275 988687-0 (business hours) Carechem 24: +44 (0) 1235 239 670 (Multi-language 24 hour emergency) Giftnotruf Universität Mainz / Poison Information Center Mainz www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

2 Hazards identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

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



Xn; Harmful

R20/22-40: Harmful by inhalation and if swallowed. Limited evidence of a carcinogenic effect.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

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Information concerning particular hazards
for human and environment:

Not applicable

Label elements

Labelling according to Regulation (EC) No
1272/2008

Hazard pictograms

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



GHS07 GHS08

Signal word

Hazard statements

Warning

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

Precautionary statements

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P321 Specific treatment (see on this label).

P405 Store locked up.

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

Other hazards

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

(CAS#) Designation:

88-10-8 Diethylcarbamyl chloride

Identification number(s):

EINECS Number:

201-798-5

Index number:

607-229-00-0

4 First aid measures

Description of first aid measures

After inhalation

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.

After swallowing

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

Information for doctor

Seek immediate medical advice.

Most important symptoms and effects, both
acute and delayed

No further relevant information available.

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Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

Extinguishing media
Suitable extinguishing agents
For safety reasons unsuitable extinguishing agents
Special hazards arising from the substance or mixture

CO₂, sand, extinguishing powder. Do not use water.

Water.

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)

Advice for firefighters
Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

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

Environmental precautions:
Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

Reference to other sections**7 Handling and storage**

Handling
Precautions for safe handling

Handle under dry protective gas.
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.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:

No special requirements.

Store away from oxidizing agents.
Store away from strong bases.
Store in the dark.
Store away from water.

Further information about storage conditions:

Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Protect from the effects of light.

Specific end use(s)

No further relevant information available.

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.

Control parameters**Components with critical values that require monitoring at the workplace:****Additional information:**

No data

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.
Avoid contact with the eyes and skin.

Breathing equipment:

Use breathing protection with high concentrations.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

Material of gloves

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

Penetration time of glove material

Not determined

Eye protection:

Safety glasses

Body protection:

Protective work clothing.

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

Liquid

Colour:

Colourless

Light yellow

Light brown

Smell:

Not determined

Odour threshold:

Not determined.

pH-value:

Not determined.

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Change in condition
Melting point/Melting range: -32°C
Boiling point/Boiling range: 186°C
Sublimation temperature / start: Not determined

Flash point: 76°C

Inflammability (solid, gaseous) Not applicable.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.

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

Steam pressure: Not determined

Density at 20°C 1.07 g/cm³
Relative density Not determined.
Vapour density Not determined.
Evaporation rate Not determined.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:
dynamic: Not determined.
kinematic: Not determined.
Other information No further relevant information available.

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Incompatible materials: Water/moisture
 Light
 Oxidizing agents
 Bases
Hazardous decomposition products: Carbon monoxide and carbon dioxide
 Nitrogen oxides (NO_x)
 Hydrogen chloride (HCl)

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

Oral	LD50	2700 mg/kg (rat)
Dermal	LD50	12840 mg/kg (rabbit)
Inhalative	LCLo/7H	159 ppm/7H (rat)
Irritation of eyes	moderate	100 mg (rabbit)

Primary irritant effect:
on the skin: Corrosive effect on skin and mucous membranes.
on the eye: Strong corrosive effect.
Sensitization: No sensitizing effect known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute and/or other multiple dose toxicity data for components in this product.
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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12 Ecological information

Toxicity
Acquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behaviour in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.

Additional ecological information:**General notes:**

Do not allow product to reach ground water, water bodies or sewage system.
 Water hazard class 2 (Self-assessment): hazardous for water.
 Danger to drinking water if even small quantities leak into soil.
 Do not allow material to be released to the environment without proper governmental permits.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations**

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.

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

ADR/RID-GGVS/E Class: 8 (C3) Corrosive substances.
 Kemler Number: 80
 UN-Number: 3265
 Packaging group: II
 UN proper shipping name: 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diethylcarbamyl chloride)
 Limited quantities (LQ) LQ22
 Transport category 2
 Tunnel restriction code E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 8
 UN Number: 3265
 Label 8
 Packaging group: II
 Marine pollutant: No
 Correct technical name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diethylcarbamyl chloride)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
 UN/ID Number: 3265
 Label 8
 Packaging group: II
 Correct technical name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Diethylcarbamyl chloride)

UN "Model Regulation":

Special precautions for user UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., 8, II
 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Warning: Corrosive substances.
 Not applicable.

15 Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No**

1272/2008

Hazard pictograms

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



GHS07 GHS08

Signal word**Hazard statements**

Warning
 H302 Harmful if swallowed.
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 P321 Specific treatment (see on this label).
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Employment restrictions concerning young persons must be observed.
 For use only by technically qualified individuals.

Technical instructions (air):

Class	Share in %
I	100.0

Water hazard class:**Chemical safety assessment:**

Water hazard class 2 (Self-assessment): hazardous for water.
 A Chemical Safety Assessment has not been carried out.

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 C. Holt
 Global EHS Manager

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