

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

Product name Acetaldehyde-d4
Product number 13610-0011D-1000DF5
REACH No. A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses specific analytics

1.3 Details of the supplier of the safety data sheet

Company NEOCHEMA GmbH
Uwe-Zeidler-Ring 10
55294 Bodenheim, Germany
Telephone +49 6135 933199 0
Fax +49 6135 933199 19
E-Mail info@neochema.com

1.4 Emergency telephone number

Emergency Phone +49 6135 933199 0

This number is only reachable during office hours (Mo - Fr, 08:00 AM - 4:00 PM CET).

SECTION 2: Hazards identification**2.1 Classification according to Regulation (EC) No 1272/2008**

Flam. liq. (category 3), H226
Acute tox. (dermal, category 4), H312
Acute tox. (inhalation, category 4), H332
Eye irrit. (category 2), H319
Carc. (category 1A), H350
Repr. (category 1), H360
For the full text of the H-Statements mentioned in this Section, see Section 2.2.

2.2 Labelling according Regulation (EC) No 1272/2008**Pictogram**

Signal word **Warning**

Hazard statements

H226 Flammable liquid and vapour.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H350 May cause cancer.
H360 May damage fertility or the unborn child.

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P280 Wear protective gloves / protective clothing / eye protection / face pro
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do –

continue rinsing.

P308 + P313 If exposed: Call a POISON CENTER or doctor / physician.

P370 + P378 In case of fire: Use carbondioxid, sand or extinguishing powder to extinguish

Supplemental Hazard Statements (EU)

None

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

This product is a mixture.

3.2 Mixtures

Ingredient: N,N-Dimethylformamide (DMF); CAS-No.: 68-12-2; EG-No.: 200-679-5; REACH-No.: 01-2119475605-32-XXXX;
Clasification: H226, H312, H332, H319, H360; Flam. Liq 3; Acute Tox. 4; Eye Irrit. 2; Acute Tox. 4; Repr. 1; Concentration: >= 90 - <= 100 %

Ingredient: Acetaldehyde-d4; CAS-No.: 1632-89-9; EG-No.: 216-641-6; REACH-No.: k.A.; Clasification: H302, H319, H341, H350, H335;
Acute Tox. 4; Eye Irrit. 2; STOT SE 3; Muta. 2; Carc. 1; Concentration: >= 0,1 - < 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution. Consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.11.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing or collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid exposure. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Flammable liquids.

7.3 Specific end uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls / personal protection**8.1 Control parameters**

Ingredient: N,N-Dimethylformamide (DMF); CAS-No.: 68-12-2; AGW: 5 ppm, 15 mg/m³; TWA: 5 ppm, 15 mg/m³; STEL: 10 ppm, 30 mg/m³

Ingredient: Acetaldehyde-d₄; CAS-No.: 1632-89-9; TWA-AGW; 50 ppm

8.2 Exposure controls**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment**Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

splash contact

material: butyl-rubber

minimum layer thickness: 0,7 mm

break through time: > 5 min

Body Protection

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

These information refer to the main component and are literature values.

a) Physical state	liquid, clear
b) Color	colorless
c) Odor	like amin
d) Melting point/freezing point	- 61 °C
e) Initial boiling point and boiling range	153 °C at 1013 hPa
f) Flammability	No Data available
g) Upper/lower flammability or explosive limits	upper: 16 %(V) ; lower: 2,2 %(V)
h) Flash point	57,5 °C - closed crucible
i) Autoignition temperature	435 °C at 1013 hPa
j) Decomposition temperature	> 350 °C
k) pH	7 at 200 g/l at 20 °C
l) Viscosity	dynamic: 0,86 mPa.s at 20 °C
m) Water solubility	1.000 g/l at 20 °C completely miscible
n) Partition coefficient: n-octanol/water	log Pow: -0,85 at 25 °C - Bioaccumulation is not expected
o) Vapor pressure	3,77 hPa at 20°C
p) Density Relative density	0,944 g/cm ³ at 25 °C
q) Relative vapor density	No Data available
r) Particle characteristics	No Data available

9.2 Other safety information

No data available.

SECTION 10: Stability and reactivity

These information refer to the main component.

10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under normal ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reactions possible with: alkali metals, halogens, halides, reducing agents, triethylaluminium, nitrates, metal oxides, non-metal oxides, halogenated hydrocarbons, isocyanates, sodium, sodium borohydride, hydrides, oxidizing agents, phosphorus oxides, tin, strong oxidizing agents, rubber, copper, copper alloys, various metals; There is a risk of explosion and/or the formation of toxic gases with the following substances: azides, bromine, chlorine, chromium(VI) oxide, potassium permanganate, triethylaluminium, chlorates, halogenated hydrocarbons, with iron

10.4 Conditions to avoid

Heating

10.5 Incompatible materials

various plastics, copper, copper alloys, tin, strong oxidizing agents

10.6 Hazardous decomposition products

In case of fire: see Chapter 5

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

No data available for the product.

Acute toxicity

Ingredient: N,N-Dimethylformamide (DMF); CAS-No.: 68-12-2; LD(50) (dermal, rabbit): 1500 mg/kg; (literature); LD(50) (inhalation, rat): 15 mg/L; (literature);

Ingredient: Acetaldehyde-d4; CAS-No.: 1632-89-9; LD(50) (oral, rat): 660 mg/kg; (literature);

ATE-Mix (dermal): 1502 mg/kg

ATE-Mix (inhalation): 15 mg/L

Skin corrosion / irritation

The mixture is not classified.

Serious eye damage / eye irritation

The mixture causes serious eye irritation. The classification results from specific concentration limits.

Respiratory or skin sensitisation

The mixture is not classified.

Germ cell mutagenicity

The mixture is not classified.

Carcinogenicity

The mixture may cause cancer. The classification results from specific concentration limits.

Reproductive toxicity

The mixture may damage fertility or the unborn child. The classification results from specific concentration limits.

Specific target organ toxicity - single exposure

The mixture is not classified.

Specific target organ toxicity - repeated exposure

The mixture is not classified.

Aspiration hazard

The mixture is not classified.

SECTION 12: Ecological information**12.1 Toxicity**

The mixture is not classified.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

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

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 2265

IMDG: 2265

IATA: 2265

14.2 UN proper shipping name

ADR/RID: N,N-Dimethylformamide

IMDG: N,N-Dimethylformamide

IATA: N,N-Dimethylformamide

14.3 Transport hazard classes

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code (D/E)

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Further information

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Full text of H-Statements referred to under section 3:

H226 - Flammable liquid and vapour.

H302 - Harmful if swallowed.

H312 - Harmful in contact with skin.

H319 - Causes serious eye irritation.

H332 - Harmful if inhaled.

H335 - May cause respiratory irritation.

H341 - Suspected of causing genetic defects.

H350 - May cause cancer.

H360 - May damage fertility or the unborn child.