

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

Printing date 25.08.2007

Revision: 25.08.2007

1 Identification of substance:

· **Product details:**

· **Trade name:** Dimethylformamide

· **Article number:** 9344, 7032, 7400, 9213, C5356

· **Application of the substance / the preparation**

Laboratory chemicals

Solvents

Chemicals for synthesis

· **Manufacturer/Supplier:**

Mallinckrodt Baker B.V

P.O.Box 1

7400 AA Deventer

The Netherlands

· **Informing department:**

Quality Systems & Regulatory Affairs

E-mail : sjors.duteweert@covidien.com

· **Emergency information:**

Environment Health & Safety department

during normal opening times (8 am till 5.30 pm) tel: (+31)(0) 570 687500

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2 Hazards identification

· **Hazard designation:**



Repr. Cat. 2
T Toxic

· **Information pertaining to particular dangers for man and environment**

R 61 May cause harm to the unborn child.

R 20/21 Harmful by inhalation and in contact with skin.

R 36 Irritating to eyes.

3 Composition/information on ingredients

· **Chemical characterization:**

· **CAS No. Designation:**

68-12-2 Dimethylformamide

· **Identification number(s):**

· **EINECS Number:** 200-679-5

· **EC Number:** 616-001-00-X

4 First aid measures

· **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation**

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

In case of unconsciousness bring patient into stable side position for transport.

· **After skin contact** The product is not skin irritating.

· **After eye contact** Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

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- **After swallowing**
Rinse out mouth
Seek medical treatment.

5 Fire fighting measures

- **Suitable extinguishing agents**
Foam
Carbon dioxide
Fire-extinguishing powder
- **Special hazards caused by the material, its products of combustion or flue gases:** Nitrogen oxides (NOx)
- **Protective equipment:** Put on breathing apparatus.

* **6 Accidental release measures**

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Dilute with plenty of water.
- **Measures for cleaning/collecting:**
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.

* **7 Handling and storage**

- **Handling**
- **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
- **Information about protection against explosions and fires:** Keep breathing equipment ready.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Recommended storage temperature:** At >15°C - <25°C

* **8 Exposure controls and personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with critical values that require monitoring at the workplace:**

68-12-2 Dimethylformamide

WEL ()	Short-term value: 61 mg/m ³ , 20 ppm Long-term value: 30 mg/m ³ , 10 ppm Sk
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- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
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.

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Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

· **Protection of hands:**

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Butyl rubber, BR

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.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Tightly sealed safety glasses.

· **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· **General Information**

Form:	Fluid
Colour:	Colourless
Smell:	Amine-like

· **Change in condition**

Melting point/Melting range:	-61°C
Boiling point/Boiling range:	152.5-153.5°C

· Flash point:	58°C
· Ignition temperature:	440°C
· Danger of explosion:	Product is not explosive.
· Critical values for explosion:	
Lower:	2.2 Vol %
Upper:	16 Vol %

· Steam pressure at 20°C:	3.5 hPa
· Density at 20°C	0.95 g/cm ³
· Solubility in / Miscibility with	
Water:	Fully miscible
· pH-value (200 g/l) at 20°C:	7
· Segregation coefficient (n-octanol/water):	-1.0 log POW

· Viscosity:	
dynamic at 20°C:	0.802 mPas

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** Heat,boiling teperatures.

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- **Materials to be avoided:**
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of composition:** No dangerous decomposition products known

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	2800 mg/kg (rat)
Dermal	LD50	4720 mg/kg (rabbit)
Inhalative	LC50/4h	>5.9 mg/l (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** Irritant effect.

· **Sensitization:** No sensitizing effect known.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Repr. Cat. 2

12 Ecological information:

· **Ecotoxicological effects:**

· **Aquatic toxicity:**

EC50	>2210 mg/l (Pseudomonas putida.)
EC50/48h	4500 mg/l (daphnia magna)
EC50/96h	>500 mg/l (Alg) Scenedesmus subspicatus)
LC 50/48h	13 mg/l (daphnia magna)
LC50/48h	13 mg/l (daphnia magna)
LC50/96h	6300 mg/l (Bluegill Sunfish (Lepomis Macrochirus))
	9800 mg/l (Trout, rainbow (Salmo gairdnerii))
TLM fishes / 96h:	10.2 mg/l (Trout, rainbow (Salmo gairdnerii))

· **General notes:**

Water hazard class (D) 1 (Assessment by list): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

13 Disposal considerations

· **Product:**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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14 Transport information

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



- ADR/RID-GGVS/E Class: 3 Flammable liquids.
- Kemler Number: 30
- UN-Number: 2265
- Packaging group: III
- Label: 3
- Designation of goods: 2265 N,N-DIMETHYLFORMAMIDE
- Limited quantities (LQ) LQ7
- Transport category: 3
- Tunnel restriction code: E

· Maritime transport IMDG/GGVSea:



- IMDG/GGVSea Class: 3
- UN Number: 2265
- Label: 3
- Packaging group: III
- EMS Number: F-E,S-D
- Correct technical name: N,N-DIMETHYLFORMAMIDE

· Air transport ICAO-TI and IATA-DGR:



- ICAO/IATA Class: 3
- UN/ID Number: 2265
- Label: 3
- Packaging group: III
- Correct technical name: N,N-DIMETHYLFORMAMIDE

15 Regulatory information

- Designation according to EC guidelines:
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)
- Code letter and hazard designation of product:
Repr. Cat. 2
T Toxic
- Risk phrases:
61 May cause harm to the unborn child.
20/21 Harmful by inhalation and in contact with skin.
36 Irritating to eyes.

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· **Safety phrases:**

53 Avoid exposure - obtain special instructions before use.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing data specification sheet:** Quality Assurance Department

· **Contact:** Sjors duteweert

· * **Data compared to the previous version altered.**

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