

N,N-DIMETHYLFORMAMIDE**0457**

October 2000

CAS No: 68-12-2
 RTECS No: LQ2100000
 UN No: 2265
 EC No: 616-001-00-X

Dimethylformamide
 DMF
 DMFA
 N-Formyldimethylamine
 $C_3H_7NO / HCON(CH_3)_2$
 Molecular mass: 73.09

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with oxidants.	Powder, alcohol-resistant foam, water spray, carbon dioxide.
EXPLOSION	Above 58/C explosive vapour/air mixtures may be formed.	Above 58/C use a closed system, ventilation.	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT GENERATION OF MISTS! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
Inhalation	Abdominal pain. Diarrhoea. Nausea. Vomiting. Facial flushing.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Eyes	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL

Personal protection: complete protective clothing including self-contained breathing apparatus. Ventilation. Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place.

PACKAGING & LABELLING

T Symbol
 R: 61-20/21-36
 S: 53-45
 Note: E
 UN Hazard Class: 3
 UN Pack Group: III

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-30S2265 or 30GF1-III
 NFPA Code: H1; F2; R0

SAFE STORAGE

Separated from strong oxidants, halogens.

IPCS

International
 Programme on
 Chemical Safety



Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission ©
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SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS TO YELLOW LIQUID, WITH CHARACTERISTIC ODOUR.

Chemical dangers

The substance decomposes on heating or on burning producing toxic fumes including nitrogen oxides. Reacts violently with oxidants, nitrates and halogenated hydrocarbons. Attacks some plastic and rubber.

Occupational exposure limits

TLV: 10 ppm as TWA; (skin); A4 (not classifiable as a human carcinogen); BEI issued; (ACGIH 2004).
MAK: 5 ppm, 15 mg/m³; Peak limitation category: II(4); skin absorption (H); Pregnancy risk group: B; (DFG 2005).

Routes of exposure

The substance can be absorbed into the body by inhalation and through the skin.

Inhalation risk

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20/C.

Effects of short-term exposure

The substance is irritating to the eyes. The substance may cause effects on the liver, resulting in jaundice. See Notes.

Effects of long-term or repeated exposure

The substance may have effects on the liver, resulting in impaired functions. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

PHYSICAL PROPERTIES

Boiling point: 153/C

Melting point: -61/C

Relative density (water = 1): 0.95

Solubility in water: miscible

Vapour pressure, Pa at 25/C: about 492

Relative vapour density (air = 1): 2.5

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.00

Flash point: 58/C c.c.

Auto-ignition temperature: 445/C

Explosive limits, vol% in air: 2.2-15.2 at 100/C

Octanol/water partition coefficient as log Pow: -0.87

ENVIRONMENTAL DATA

NOTES

Use of alcoholic beverages enhances the harmful effect.

Resulting symptoms could be delayed from several hours up to several days.

Environmental effects from the substance have been investigated but none have been found.

Card has been partly updated in October 2005. See sections Occupational Exposure Limits, Emergency Response.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information