



EC safety data sheet

Trade name: Dimethylformamid

Current version : 7.0.0, issued: 24.07.2015

Replaced version: 6.0.1, issued: 01.04.2015

Region: GB

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

1.1 Product identifier

Trade name

Dimethylformamid

Substance name N,N-dimethylformamide
REACH registration no. 01-2119475605-32

Identification numbers

CAS no. 68-12-2
EC no. 200-679-5
Index no. 616-001-00-X

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

Relevant identified uses of the substance or mixture

Uses by workers in industrial settings:

Production of Chemical

Formulation of Preparations

Industrial use resulting in manufacture of another substance

Use as laboratory chemical

Use as solvent

Uses by professional workers:

Use as laboratory chemical

Uses advised against

No data available.

Reference to relevant exposure scenarios

For an overview of the exact titles of the relevant exposure scenarios please refer to section 16 of this SDS.

1.3 Details of the supplier of the safety data sheet

Address

HELM AG
Nordkanalstraße 28
D-20097 Hamburg

Telephone no. +49(0)40 / 2375-0

Fax no. +49(0)40 / 2375-1845

Information provided by / telephone

Telephone: +49(0)40 / 23750 Fax: +49(0)40 / 23751845

Advice on Safety Data Sheet

SDB@HELMAG.COM

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

In case of transport incidents and other emergencies (advice in German and English):

+44 (0) 1235 239 670 (NCEC, National Chemical Emergency Centre)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)

Acute Tox. 4; H312

Acute Tox. 4; H332

Eye Irrit. 2; H319

Flam. Liq. 3; H226

Repr. 1B; H360D

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Product identifier

68-12-2 (N,N-dimethylformamide)



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Hazard pictograms



GHS02



GHS07



GHS08

Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360D	May damage the unborn child.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P312	Call a POISON CENTER/doctor if you feel unwell.
P370+P378	In case of fire: Use water spray, extinguishing powder, foam or CO2 for extinction.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to hazardous or special waste collection point.

Supplemental label elements

"Restricted to professional users"

2.3 Other hazards

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization

Substance name N,N-dimethylformamide

Identification numbers

CAS no.	68-12-2
EC no.	200-679-5
Index no.	616-001-00-X

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

If the patient is likely to become unconscious, place and transport in stable sideways position. Poisonous symptoms can first be observed after several hours, therefore medical observation for at least 48 hours is necessary. In case of persisting adverse effects, consult a physician.

After inhalation

Ensure supply of fresh air.

After skin contact

In case of contact with skin wash off immediately with soap and water.

After eye contact

In case of contact with eyes rinse thoroughly with plenty of water. If symptoms persist, seek medical advice.

After ingestion

Induce the patient to vomit of his own accord only if fully conscious. Turn a vomiting person lying on his back onto his side.



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4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed, flush stomach.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet; Alcohol-resistant foam; Extinguishing powder; Carbon dioxide

Unsuitable extinguishing media

No data available.

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Nitrous oxides (NOx)

5.3 Advice for firefighters

Run-off water from fire fighting must not be discharged into drains or enter surface water. Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus. Cool endangered containers with water spray jet. Defeat developing combustible gases with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Use breathing apparatus if exposed to vapours/dust/aerosol. Remove persons to safety. Pay attention to extension of gas specially at ground (heavier than air) and in direction of the wind.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Dispose of as prescribed. Clean thoroughly. Pick up with absorbent material.

6.4 Reference to other sections

Information regarding waste disposal, see chapter 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Provide suitable exhaust ventilation at processing machines.

General protective and hygiene measures

Keep separated from food-stuffs and feed-stocks. Avoid contact with eyes and skin. Avoid exposition - before application obtain special instructions. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Remove soiled or soaked clothing immediately.

Advice on protection against fire and explosion

The product vapours are heavier than air. Vapours can form an explosive mixture with air.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed, cool and dry. Keep under lock and key or accessible only to specialists or people who are authorized.

Recommended storage temperature

Value < 50 °C

Advice on storage assembly

Do not store together with: Oxidizing agents; Alkali metals; Reducing agents

7.3 Specific end use(s)

No data available.



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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	N,N-dimethylformamide	68-12-2	200-679-5
List of approved workplace exposure limits (WELs) / EH40			
N,N-Dimethylformamide			
	STEL	10 ppm	30 mg/m ³
	TWA	5 ppm	15 mg/m ³
	Skin resorption / sensibilisation	Sk	
2000/39/EWG			
N,N Dimethylformamid			
	STEL	30 mg/m ³	10 ml/m ³
	TWA	15 mg/m ³	5 ml/m ³
	Skin resorption / sensibilisation	skin	

DNEL and PNEC values

DNEL values (worker)

No	Substance name	CAS / EC no
1	N,N-dimethylformamide	68-12-2 200-679-5
	dermal Short term (acut) systemic	26.3 mg/kg/day
	dermal Short term (acut) local	5900 µg/cm ²
	dermal Long term (chronic) systemic	3.31 mg/kg/day
	dermal Long term (chronic) local	446 µg/cm ²
	inhalative Short term (acut) systemic	30 mg/m ³
	inhalative Short term (acut) local	30 mg/m ³
	inhalative Long term (chronic) systemic	15 mg/m ³
	inhalative Long term (chronic) local	15 mg/m ³

PNEC values

No	Substance name	CAS / EC no
1	N,N-dimethylformamide	68-12-2 200-679-5
	ecological compartment Type	Value
	water fresh water	30 mg/l
	water marine water	3 mg/l
	water Aqua intermittent	30 mg/l
	water fresh water sediment	25.05 mg/kg
	soil -	16.235 mg/kg
	sewage treatment plant -	123 mg/l

8.2 Exposure controls

Appropriate engineering controls

No data available.

Personal protective equipment

Respiratory protection

Short term: filter apparatus, Filter A; If ventilation insufficient, use a respiratory protection apparatus.

Eye / face protection

Tightly fitting safety glasses (EN 166).

Hand protection

Protective gloves (EN 374); Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material butyl
Material thickness 0.6 - 0.8 mm
Breakthrough time > 480 min.

Other

Light protective clothing



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Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Colour			
liquid			
colourless			
Odour			
amine-like			
Odour threshold			
No data available			
pH value			
Value	7		
Reference temperature	20	°C	
Concentration	200	g/l	
Boiling point / boiling range			
Value	152	- 153	°C
Reference pressure		1013	hPa
Melting point / melting range			
Value	-61	°C	
Decomposition point / decomposition range			
No data available			
Flash point			
Value	57.5	°C	
Method	DIN 51755		
Ignition temperature			
Value	410	°C	
Method	DIN 51794		
Auto-ignition temperature			
No data available			
Oxidising properties			
No data available			
Explosive properties			
No data available			
Flammability (solid, gas)			
No data available			
Lower flammability or explosive limits			
Value	2.2	% vol	
Source	Supplier		
Upper flammability or explosive limits			
Value	16	% vol	
Source	Supplier		
Vapour pressure			
Value	3.77	hPa	
Reference temperature	20	°C	



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Vapour density			
No data available			
Evaporation rate			
No data available			
Relative density			
No data available			
Density			
Value	0.94	g/cm ³	
Reference temperature	20	°C	
Solubility in water			
Value	1000	g/l	
Reference temperature	20	°C	
Remarks	miscible		
Solubility(ies)			
No data available			
Partition coefficient: n-octanol/water			
log Pow	-0.85		
Reference temperature	25	°C	
Viscosity			
Value	0.86	mPa*s	
Reference temperature	20	°C	
Type	dynamic		

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

No data available.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Heat, naked flames and other ignition sources.

10.5 Incompatible materials

Nitrates; strong oxidizing agents; Halogenated hydrocarbons; Reducing agents

10.6 Hazardous decomposition products

Formaldehyde

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity			
LD50	3040	mg/kg	
Species	rat		
Method	BASF-Test		
Acute dermal toxicity			
LD50	> 3160	mg/kg	
Species	rat		
Method	OECD 402		



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Acute inhalational toxicity			
LC50	>	5.85	mg/l
Duration of exposure		4	h
Species	rat		
Method	OECD 403		
Skin corrosion/irritation			
Species	rabbit		
Method	BASF-Test		
Evaluation	non-irritant		
Serious eye damage/irritation			
Species	rabbit		
Method	BASF-Test		
Evaluation	irritant		
Respiratory or skin sensitisation			
Route of exposure	Skin		
Species	mouse		
Method	OECD 406		
Evaluation	non-sensitizing		
Germ cell mutagenicity			
Type of examination	Bacterial Reverse Mutation Test		
Species	Salmonella typh. TA98, TA100, TA1535, TA1537, TA1538		
Evaluation	negative		
Reproduction toxicity			
Route of exposure	oral		
		219	mg/kg
Type of examination	NOAEL		
Species	mouse		
Route of exposure	dermal		
		200	mg/m³
Type of examination	NOAEL		
Species	rabbit		
Method	OECD 414		
Route of exposure	inhalative		
		150	mg/m³
Type of examination	NOAEC		
Species	rabbit		
Method	OECD 414		
Carcinogenicity			
Route of exposure	inhalative		
NOAEC		80	mg/m³
Species	rat		
Method	OECD 451		
Evaluation	negative		
STOT-single exposure			
No data available			
STOT-repeated exposure			
Route of exposure	oral		
NOAEL		238	mg/kg
Duration of exposure		28	day(s)
Species	rat		
Method	OECD 407		
Aspiration hazard			
No data available			

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
LC50		7100	mg/l
Duration of exposure		96	h
Species	Lepomis macrochirus		



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Toxicity to fish (chronic)			
No data available			
Toxicity to Daphnia (acute)			
EC50	13100	mg/l	
Duration of exposure	48	h	
Species	Daphnia magna		
Method	OECD 202		
NOEC	1500	mg/l	
Duration of exposure	21	day(s)	
Species	Daphnia magna		
Toxicity to Daphnia (chronic)			
No data available			
Toxicity to algae (acute)			
EC50	>	1000	mg/l
Duration of exposure	72	h	
Species	Scenedesmus subspicatus		
Method	DIN 38412 T.9		
NOEC	1000	mg/l	
Duration of exposure	14	day(s)	
Species	Pseudokirchneriella subcapitata		
Toxicity to algae (chronic)			
No data available			
Bacteria toxicity			
No data available			

12.2 Persistence and degradability

Biodegradability			
Type	DOC decrease		
Value	100	%	
Duration	21	d	
Method	OECD 301 E		
Evaluation	readily biodegradable		

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)			
BCF	0.3	-	1.2
Species	Cyprinus carpio		
Method	OECD 305 C		
Remarks	BCF: 1.2		
Partition coefficient: n-octanol/water			
log Pow		-0.85	
Reference temperature		25	°C

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

12.6 Other adverse effects

No data available.

12.7 Other information

Other information	
Do not discharge product unmonitored into the environment.	

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Dispose of as hazardous waste.

In accordance with regulations for special waste, must be taken, after pretreatment, to an authorised special waste incineration plant.



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Packaging

Uncontaminated packaging may be taken for recycling.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

Class	3
Classification code	F1
Packing group	III
Hazard identification no.	30
UN number	UN2265
Technical name	N,N-DIMETHYLFORMAMIDE
Tunnel restriction code	D/E
Label	3

14.2 Transport IMDG

Class	3
Packing group	III
UN number	UN2265
Proper shipping name	N,N-DIMETHYLFORMAMIDE
EmS	F-E+S-D
Label	3

14.3 Transport ICAO-TI / IATA

Class	3
Packing group	III
UN number	UN2265
Proper shipping name	N,N-Dimethylformamide
Label	3

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Product name	Dimethylformamide
Pollution category	Y
Ship type	3

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

In accordance with the Reach regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

The substance meets the criteria in Article 57 in association with Article 59 of the REACH regulation (EC) 1907/2006 and is placed on the list of candidates considered for inclusion in annexe XIV (substances subject to Authorisation).

No	Substance name	CAS no.	EC no.
1	N,N-dimethylformamide	68-12-2	200-679-5

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES

The substance is considered being subject to REACH regulation (EC) 1907/2006 annexe XVII.

No	Substance name	CAS no.	EC no.	No
1	N,N-dimethylformamide	68-12-2	200-679-5	30

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category: P5c



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National regulations

National chemical inventories

EINECS/ELINCS (European Community)	listed
TSCA (USA)	listed
DSL/NDL (Canada)	DSL listed
MITI/ENCS (Japan)	listed
ECL (Corea)	listed
AICS (Australia)	listed
IECSC / NEPA (China)	listed
PICCS (Philippines)	listed
NZIoC (New Zealand)	listed
CSNN (Taiwan)	listed

Other regulations

BGI 621 "Merkblatt: Lösemittel"

15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Further information

The information is based on our current knowledge however it does not represent a guarantee of product properties nor does it create any legal obligation.

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Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

List of existing exposition scenarios

ES001	Formulation and (re)packing of substance and mixtures - industrial use
ES002	Use as an intermediate, process chemical - industrial use
ES003	Use as a laboratory reagent - industrial use
ES004	Use as a laboratory reagent - professional use
ES005	Use as a solvent

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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