

Safety Data Sheet

according to UK REACH Regulation

DMF

Revision date: 26.06.2023

Product code: SOL-004

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

DMF

Further trade names

Dimethylformamide (Peptide Grade)

N,N-Dimethylformamide

N,N-Dimethylmethanamide

REACH Registration Number: 01-2119475605-32-XXXX

CAS No: 68-12-2

Index No: 616-001-00-X

EC No: 200-679-5

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**Manufacture of the substance. Laboratory chemical.
Scientific research and development.**Uses advised against**Do not use for private purposes (household).
Restrictions on use: Pharmaceutical substance**1.3. Details of the supplier of the safety data sheet**Company name: Iris Biotech GmbH
Street: Adalbert-Zoellner-Straße 1
Place: D-95615 Marktredwitz, Germany
Post-office box: 568
D-95605 Marktredwitz, Germany

Telephone: +49 9231 97121 0

Telefax: +49 9231 97121 99

e-mail: info@iris-biotech.de

Contact person: Compliance Department

Telephone: +49 9231 97121 0

e-mail: sds@iris-biotech.de

Internet: www.iris-biotech.de

Responsible Department: Only available during office hours.

1.4. Emergency telephone number: +49 (0)89 19240 (POISON CENTER Munich: 24 h)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Flam. Liq. 3; H226

Repr. 1B; H360D

Acute Tox. 4; H332

Acute Tox. 4; H312

Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Signal word:** Danger

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Pictograms:**Hazard statements**

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

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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 or concerned: Get medical advice/attention.
P403+P235	Store in a well-ventilated place. Keep cool.

Special labelling of certain mixtures

Restricted to professional users.

Additional advice on labelling

Warning - substance not yet tested completely.
Restricted to professional users.

Labelling of packages where the contents do not exceed 125 ml**Signal word:** Danger**Pictograms:****Hazard statements**

H360D

Precautionary statements

P280-P308+P313

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****Chemical characterization**

N,N-Dimethylformamide

Sum formula: C₃H₇NO

Molecular weight: 73,10 g/mol

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
68-12-2	N,N-dimethylformamide; dimethyl formamide			<= 100 %
	200-679-5	616-001-00-X	01-2119475605-32-XXXX	
	Flam. Liq. 3, Repr. 1B, Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H226 H360D H332 H312 H319			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68-12-2	200-679-5	N,N-dimethylformamide; dimethyl formamide	<= 100 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg; oral: LD50 = 3010 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

In all cases of doubt, or when symptoms persist, seek medical advice.

After inhalation

Provide fresh air. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

Consult a doctor.

After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary. After contact with skin, wash immediately with plenty of water and soap.

Remove contaminated, saturated clothing immediately.

In all cases of doubt, or when symptoms persist, seek medical advice.

Consult a doctor.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

Induce vomiting when the affected person is not unconscious.

Never give anything by mouth to an unconscious person or a person with cramps.

In all cases of doubt, or when symptoms persist, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Refer to chapter 11.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder. Water spray. alcohol resistant foam. Dry extinguishing powder. Sand.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrogen oxides (NO_x).

Formaldehyde

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Use water spray jet to protect personnel and to cool endangered containers.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water. Usual measures for fire prevention.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Remove all sources of ignition. Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid contact with skin, eyes and clothes.

Wear personal protection equipment.

In case of fire: Evacuate area.

For non-emergency personnel

Cover drains.

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

For emergency responders

Cover drains.

Stop and contain spill/release if it can be done safely.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

Do not allow to enter into soil/subsoil.

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Stop and contain spill/release if it can be done safely.

For cleaning up

Universal binder/ Binder: Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Take up mechanically, placing in appropriate containers for disposal.

Clear contaminated areas thoroughly.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13 Treat the recovered material as prescribed in the section on waste disposal.

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Keep away from sources of ignition - No smoking.

In use may form flammable/explosive vapour-air mixture.

Provide adequate ventilation.

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

Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Vapours can form explosive mixtures with air. Usual measures for fire prevention.

Do not spray on naked flames or any incandescent material.

Take precautionary measures against static discharges.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid contact with skin, eyes and clothes.

Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed in a cool, well-ventilated place.

Handle and store contents under inert gas. Protect from moisture. Protect from direct sunlight.

Containers which are opened carefully and kept upright to prevent leakage.

storage temperature: at room temperature

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

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****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
68-12-2	N,N-Dimethylformamide	5	15		TWA (8 h)	WEL
		10	30		STEL (15 min)	WEL

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DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
68-12-2	N,N-dimethylformamide; dimethyl formamide		
Worker DNEL, long-term	inhalation	systemic	6 mg/m ³
Worker DNEL, acute	inhalation	systemic	30 mg/m ³
Worker DNEL, long-term	inhalation	local	15 mg/m ³
Worker DNEL, acute	inhalation	local	30 mg/m ³
Worker DNEL, long-term	dermal	systemic	1,1 mg/kg bw/day
Worker DNEL, acute	dermal	systemic	26,3 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	1,1 mg/m ³
Consumer DNEL, acute	inhalation	systemic	30 mg/m ³
Consumer DNEL, long-term	inhalation	local	15 mg/m ³
Consumer DNEL, acute	inhalation	local	30 mg/m ³
Consumer DNEL, long-term	dermal	systemic	1,98 mg/kg bw/day
Consumer DNEL, acute	dermal	systemic	15,8 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,16 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	5,94 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment	Value	
68-12-2	N,N-dimethylformamide; dimethyl formamide	
Freshwater	30 mg/l	
Freshwater (intermittent releases)	30 mg/l	
Marine water	3 mg/l	
Freshwater sediment	111 mg/kg	
Marine sediment	11,1 mg/kg	
Micro-organisms in sewage treatment plants (STP)	44 mg/l	
Soil	56,97 mg/kg	

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Individual protection measures, such as personal protective equipment
Eye/face protection

Wear eye/face protection.

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and

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approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

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 of 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 Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

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).

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.
Avoid release to the environment.

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

Physical state:	liquid	
Colour:	colourless	
Odour:	Amines; Odour threshold: 0,329 ppm	
Odour threshold:	not determined	
		Test method
Melting point/freezing point:	-61 °C	
Boiling point or initial boiling point and boiling range:	153 °C	
Flammability:	not determined	
Lower explosion limits:	2,2 vol. %	
Upper explosion limits:	16 vol. %	
Flash point:	58 °C	
Auto-ignition temperature:	440 °C	
Decomposition temperature:	not determined	
pH-Value (at 20 °C):	7	200 g/l
Viscosity / kinematic:	not determined	
Water solubility:	completely miscible	
Solubility in other solvents	not determined	
Dissolution rate:	not determined	

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Partition coefficient n-octanol/water:	log Pow: -0,85
Dispersion stability:	No data available
Vapour pressure: (at 20 °C)	3,60 hPa
Vapour pressure: (at 25 °C)	5,16 hPa
Density:	0,95 g/cm ³
Relative density:	No data available
Bulk density:	not applicable (liquid)
Relative vapour density:	2,52 (Air = 1)
Particle characteristics:	not applicable (liquid)

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Sustaining combustion:

Sustaining combustion

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate: not determined

Solvent content: 100,00 %

Solid content: not applicable

Pour point: No data available

Viscosity / dynamic:
(at 20 °C) 0,802 mPa·s

Flow time: No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Flammable.

In use, may form flammable/explosive vapour-air mixture.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Violent reaction with:

Alkali metals.

Halogenes

Halogenic compounds.

Reducing agent

Triethylaluminium

Nitrate

Halocarbon.

Isocyanate

Sodium

Sodium borohydride.

Oxidising agent

Phosphorus oxides.

Tin

Oxidizing agents, strong.

Rubber.

Copper alloys

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Explosion hazard with:
 Azide
 Bromine
 Chlorine
 Chrom(VI)-oxid
 Potassium chlorate Halocarbon.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Protect from moisture.
 Keep away from heat.
 Protect from direct sunlight.

10.5. Incompatible materials

Oxidizing agents, strong.
 Alkali (lye), concentrated

10.6. Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapours.
 In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrogen oxides (NO_x).
 Formaldehyde

Further information

In case of fire: See chapter 5.

SECTION 11: Toxicological information
11.1. Information on hazard classes as defined in GB CLP Regulation
Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

Harmful in contact with skin.
 Harmful if inhaled.
 Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2).

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
68-12-2	N,N-dimethylformamide; dimethyl formamide				
	oral	LD50 3010 mg/kg	Rat	also cited in OECD SIDS Dimethylformamid	OECD Guideline 401
	dermal	ATE 1100 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

Irritation and corrosivity

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Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Skin corrosion/irritation:
Skin - rabbit.
Result: No skin irritation - 20 h
(ECHA)

Serious eye damage/eye irritation:
Eye contact - Rabbit
Result: Irritating to eyes.
OECD 405
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2).

Sensitising effects

Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation
Local lymph node assay (LLNA) - Mouse.
Result: negative
Methode: OECD 406

Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child. (N,N-dimethylformamide; dimethyl formamide)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Germ cell mutagenicity:
Ames test
Salmonella typhimurium
Result: negative
OECD 471 (Ames test)
(ECHA)

Developmental toxicity/teratogenicity :
May cause harm to the unborn child.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

Repeated dose toxicity:: Rat - male + female - oral - 28 d: NOAEL: 238 mg/kg - LOAEL: 475 mg/kg - OECD 407 - Subacute oral toxicity

Additional information on tests

Repeated dose toxicity:
Rat, male/ female
oral
28 d
NOAEL: 238 mg/kg
LOAEL: 475 mg/kg
OECD 407
Subacute oral toxicity

Practical experience

No data available

11.2. Information on other hazards

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Endocrine disrupting properties

No data available

Other information

After absorption:

Headache. Dizziness. Dizziness

Possible effects: liver damage, kidney damage

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Special hazards arising from the substance or mixture!

RTECS: LQ2100000

Caution! To the best of our knowledge the toxicological properties of this material have not been thoroughly investigated.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Special precautions for user

SECTION 12: Ecological information
12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
68-12-2	N,N-dimethylformamide; dimethyl formamide					
	Acute fish toxicity	LC50 mg/l	7100	96 h	Lepomis macrochirus	REACH Registration Dossier other: US EPA guideline 660/3-75-009
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Desmodesmus subspicatus	REACH Registration Dossier other: DIN 38412, part 9, "Determination"
	Acute crustacea toxicity	EC50 mg/l	13100	48 h	Daphnia magna	REACH Registration Dossier OECD Guideline 202
	Fish toxicity	NOEC mg/l	> 102	21 d	Oryzias latipes	REACH Registration Dossier OECD Guideline 204
	Algae toxicity	NOEC	940 mg/l	14 d	Raphidocelis subcapitata	Bull. Environ. Contam. Toxicol. 31, 98-1 other: EPA-600/9-78-01 8
	Crustacea toxicity	NOEC mg/l	1500	21 d	Daphnia magna	REACH Registration Dossier Semi-Static toxicity test

12.2. Persistence and degradability

Biological degradation:

100 %; 21 d; aerob

OECD 301E/ EEC 92/69/V, C.4-B

Readily biodegradable (according to OECD criteria).

Biochemical oxygen demand

900 mg/g (5 d)

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Theoretical oxygen demand (ThOD):
1.863 mg/g

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Bioconcentration factor (BCF): 0,3 - 1,2
Cyprinus carpio (Common Carp); 56 d
OECD 305C

Does not significantly accumulate in organisms.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
68-12-2	N,N-dimethylformamide; dimethyl formamide	-0,85

BCF

CAS No	Chemical name	BCF	Species	Source
68-12-2	N,N-dimethylformamide; dimethyl formamide	0,3 - 1,2	Cyprinus carpio	REACH Registration D

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Chemical stability in Water: ca. 50 d
Solvent: Water
Reaction with Hydroxylradikalen (calculated.) (Lit.)

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Discharge into the environment must be avoided.

Warning - substance not yet tested completely.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation.
Consult the appropriate local waste disposal expert about waste disposal.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 2265
14.2. UN proper shipping name:	N,N-DIMETHYL-FORMAMIDE
14.3. Transport hazard class(es):	3
14.4. Packing group:	III

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Hazard label: 3


 Classification code: F1
 Limited quantity: 5 L
 Excepted quantity: E1
 Transport category: 3
 Hazard No: 30
 Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 2265
14.2. UN proper shipping name: N,N-DIMETHYLFORMAMIDE
14.3. Transport hazard class(es): 3
14.4. Packing group: III
 Hazard label: 3


 Classification code: F1
 Limited quantity: 5 L
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 2265
14.2. UN proper shipping name: N,N-DIMETHYLFORMAMIDE
14.3. Transport hazard class(es): 3
14.4. Packing group: III
 Hazard label: 3


 Special Provisions: -
 Limited quantity: 5 L
 Excepted quantity: E1
 EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 2265
14.2. UN proper shipping name: N,N-DIMETHYLFORMAMIDE
14.3. Transport hazard class(es): 3
14.4. Packing group: III
 Hazard label: 3


 Limited quantity Passenger: 10 L
 Passenger LQ: Y344
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 355
 IATA-max. quantity - Passenger: 60 L
 IATA-packing instructions - Cargo: 366
 IATA-max. quantity - Cargo: 220 L

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14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

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

Authorisations (REACH, annex XIV):

This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH.

Restrictions on use (REACH, annex XVII):

Entry 40, Entry 72

2010/75/EU (VOC): 100 % (950 g/l)

2004/42/EC (VOC): 100 % (950 g/l)

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Use restriction according to REACH annex XVII, no.: 3, 30, 40, 72, 76

This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH. Dimethylformamide (DMF).

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

Additional information

Reserved for industrial and professional use.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 1,4,5,6,7,8,9,10,11,12,15,16.

Abbreviations and acronyms

ADR: Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road).

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

Safety Data Sheet

according to UK REACH Regulation

DMF

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ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

Relevant H and EUH statements (number and full text)

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

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.