



according to Regulation (EC) No 1907/2006

N,N-Dimethylformamid HPLC isocratic grade mind. 99,9 %

Revision date: 20.07.2023

Product code: 19587

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

1.1. Product identifier

N,N-Dimethylformamid HPLC isocratic grade mind. 99,9 %

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

Laboratory chemicals Industrial uses: Uses of substances as such or in preparations at industrial sites Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

.3. Details of the supplier of the safety data shee	t
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1.3. Details of the supplier of the saf	ety data sheet	
Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax:0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	
1.4. Emergency telephone	For Hazardous Materials [or Dangerous (Goods] Incidents Spill, Leak, Fire,
number:	Exposure, or Accident Call CHEMTREC Day or Night Within USA and Cana 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)	

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

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

Regulation (EC) No 1272/2008

Signal	word:	
orginal	mora.	







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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 statemer	nts	
P201	Obtain special instructions before use.	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.	
P308+P313	IF exposed or concerned: Get medical advice/attention.	
P403+P235	Store in a well-ventilated place. Keep cool.	
Special labelling of cert	ain mixtures	
	Restricted to professional users.	

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula:	HCON(CH3)2
Molecular weight:	73,09 g/mol

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No			
Classification (Regulation (EC) No 1272/2008)				
68-12-2	12-2 N,N-dimethylformamide			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	100 %
inhalation: LC50 = > 5,85 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 3160 mg/kg; oral: LD50 = 3010 mg/kg			

Further Information

SVHC substance.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.



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After contact with skin

Wash immediately with: Water Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

Irritant

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

Foam Carbon dioxide (CO2) Extinguishing powder Water

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquids Hazardous combustion products In case of fire may be liberated: Nitrogen oxides (NOx) Vapours are heavier than air, spread along floors and form explosive mixtures with air. Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes. Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Move undamaged containers from immediate hazard area if it can be done safely. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.



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For non-emergency personnel

Provide adequate ventilation. Use personal protection equipment. Avoid contact with skin, eyes and clothes. Remove persons to safety. Emergency procedures Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers). Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation. Do not breathe dust/fume/gas/mist/vapours/spray. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid exposure - obtain special instructions before use. Read label before use. Handle and open container with care. When using do not eat, drink, smoke, sniff. Keep container tightly closed. Use personal protection equipment. Use extractor hood (laboratory). Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used. Store in a place accessible by authorized persons only.

7.2. Conditions for safe storage, including any incompatibilities



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Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Further information on storage conditions

Keep container tightly closed. Keep cool. Protect from sunlight. storage temperature +5°C - +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
68-12-2	Dimethylformamide	5	15		TWA (8 h)	
		10	30		STEL (15 min)	

Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
68-12-2	N,N-Dimethylformamide	N-Methylformamide	15 mg/L	Urine	Post shift

DNEL/DMEL values

CAS No	Substance					
DNEL type	DNEL type Exposure route Effect Value					
68-12-2	N,N-dimethylformamide		-			
Worker DNEL	_, long-term	inhalation	systemic	6 mg/m³		
Worker DNEL	_, long-term	dermal	systemic	1,1 mg/kg bw/day		
Consumer DN	NEL, long-term	inhalation	systemic	1,1 mg/m³		
Consumer D	NEL, long-term	oral	systemic	0,16 mg/kg bw/day		
Worker DNEL	_, acute	inhalation	local	30 mg/m³		
Worker DNEL	., acute	dermal	systemic	26,3 mg/kg bw/day		
Consumer DN	NEL, acute	inhalation	systemic	30 mg/m³		
Worker DNEL	_, long-term	inhalation	local	15 mg/m³		
Worker DNEL	_, acute	inhalation	systemic	30 mg/m ³		
Consumer D	NEL, acute	oral	systemic	5,94 mg/kg bw/day		
Consumer DN	NEL, acute	inhalation	local	30 mg/m³		
Consumer D	NEL, acute	dermal	systemic	15,8 mg/kg bw/day		
Consumer D	NEL, long-term	dermal	systemic	1,98 mg/kg bw/day		
Consumer DN	NEL, long-term	inhalation	local	15 mg/m³		



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PNEC values

CAS No	Substance		
Environmental compartment Value			
68-12-2	N,N-dimethylformamide		
Freshwater		30 mg/l	
Freshwater (intermittent releases) 30 mg/l			
Marine water 3 mg/l		3 mg/l	
Freshwater sediment 111 m		111 mg/kg	
Marine sediment 11,1 mg		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

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles Face protection umbrella

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact Trade name/designation KCL 898 Butoject® Suitable material: Butyl caoutchouc (butyl rubber) 0,7 mm Wearing time with permanent contact: > 480 min

By short-term hand contact Trade name/designation KCL 890 Vitoject® Suitable material: FKM (fluoro rubber) 0,7 mm Wearing time with occasional contact (splashes): > 240 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Take off immediately all contaminated clothing and wash it before reuse.

Wear fire resistant or flame retardant clothing.

Wash hands and face before breaks and after work and take a shower if necessary.

Draw up and observe skin protection programme.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Filtering device with filter or ventilator filtering device of type: A-(P2)

Environmental exposure controls

Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.



AnalytiChem GmbH

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Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.1. Information on basic physical and che	
Physical state: Colour:	Liquid colourless
Odour:	like: Amines
Odour threshold:	No data available
Melting point/freezing point:	-61 °C
Boiling point or initial boiling point and	-01 0 153 °C
boiling range:	135 0
Flammability:	No data available
Lower explosion limits:	2,2 vol. %
Upper explosion limits:	_,e %
Flash point:	57,5 °C
Auto-ignition temperature:	410 °C
Decomposition temperature:	>350 °C
pH-Value (at 20 °C):	7 (200 g/l)
Viscosity / kinematic:	No data available
-	
Water solubility: (at 20 °C)	1000 g/L
Solubility in other solvents	
No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	3,77 hPa
(at 20 °C)	
Vapour pressure:	No data available
Density:	0,94 g/cm³
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available
9.2. Other information	
Information with regard to physical ha	zard classes
Explosive properties	
	l along floors and form explosive mixtures with air.
Sustaining combustion:	No data available
Self-ignition temperature	425 °C
Solid: Gas:	435 °C No data available
Oxidizing properties	
No data available	
Other safety characteristics	
Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
	No data available



N,N-Dimethylformamid HPLC isocratic grade mind. 99,9 % Revision date: 20.07.2023 Product code: 19587 Page 8 of 12 Viscosity / dynamic: 0.86 mPa·s (at 20 °C) Flow time: No data available **Further Information** No data available **SECTION 10: Stability and reactivity** 10.1. Reactivity In case of warming: Vapours may form explosive mixtures with air. 10.2. Chemical stability The product is stable under storage at normal ambient temperatures. 10.3. Possibility of hazardous reactions

Oxidising agent Alkali metals Reducing agent Isocyanates Phosphorus oxides Bromine Chlorine permanganates, e.g. potassium permanganate NO3, Na

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Plastic articles copper Copper alloys Tin

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

Avoid exposure - obtain special instructions before use.

Acute toxicity

Harmful in contact with skin. Harmful if inhaled.



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CAS No	Chemical name						
	Exposure route	Dose		Species	Source	Method	
68-12-2	N,N-dimethylformamide						
	oral	LD50 mg/kg	3010	Rat	also cited in OECD SIDS Dimethylformamid	OECD Guideline 401	
	dermal	LD50 mg/kg	> 3160	Rabbit	Study report (1978)	OECD Guideline 405	
	inhalation (4 h) vapour	LC50 mg/l	> 5,85	Rat	also cited in OECD SIDS Dimethylformamid	OECD Guideline 403	
	inhalation dust/mist	ATE	1,5 mg/l				

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child. (N,N-dimethylformamide) Germ cell mutagenicity: Based on available data, the classification criteria are not met. Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

liver

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.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information No data available

Further information

Headache Dizziness Dizziness

SECTION 12: Ecological information

12.1. Toxicity



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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							
	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

100 %; 21 d; aerob OECD 301E Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

	Log Pow
68-12-2 N,N-dimethylformamide	-0,85

BCF

CAS No	Chemical name	BCF	Species	Source
68-12-2	N,N-dimethylformamide	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 REACH, annex XIII.

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Do not allow to enter into surface water or drains.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.



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Send to a physico-chemical treatment facility under observation of official regulations. Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

Land transport (ADR/RID)	
<u>14.1. UN number or ID number:</u>	UN 2265
14.2. UN proper shipping name:	N,N-DIMETHYLFORMAMIDE
14.3. Transport hazard class(es):	3
14.4. Packing group:	Ш
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)	DIE
<u>14.1. UN number or ID number:</u>	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:	Ш
Hazard label:	3
Special Provisions:	-
Limited quantity:	5 L
Excepted quantity:	F1
EmS:	F-E, S-D
	1-L, 3-D
Air transport (ICAO-TI/IATA-DGR)	1111 0005
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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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 3, Entry 30, Entry 40 Information according to Directive 2012/18/EU (SEVESO III):

P5c FLAMMABLE LIQUIDS

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. Observe employment restrictions for women of child-bearing age. 2 - obviously hazardous to water

Water hazard class (D):

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 12.

Abbreviations and acronyms

Flam. Liq: Flammable liquid Acute Tox: Acute toxicity Eye Irrit: Eye irritation Repr: Reproductive toxicity

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 above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. 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.