

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Hexamethylenetetramine pure

Revision date: 28.07.2023

Product code: 15252

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

1.1. Product identifier

Hexamethylenetetramine pure

REACH Registration Number: 01-2119474895-20-XXXX
CAS No: 100-97-0
Index No: 612-101-00-2
EC No: 202-905-8

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).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit
Telefax: 0203/5194-290
Telephone: 0203/5194-107/117

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 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. Sol. 2; H228
Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H228 Flammable solid.
H317 May cause an allergic skin reaction.

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Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: C₆H₁₂N₄
Molecular weight: 140,19 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
100-97-0	methenamine			100 %
	202-905-8	612-101-00-2	01-2119474895-20-XXXX	
	Flam. Sol. 2, Skin Sens. 1; H228 H317			

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		
100-97-0	202-905-8	methenamine	100 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 20000 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.
Call a doctor if you feel unwell.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
In case of skin irritation, consult a physician.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.
Remove contact lenses, if present and easy to do. Continue rinsing.
In case of eye irritation consult an ophthalmologist.

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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

Vomiting
Gastrointestinal complaints
Allergic reactions
Irritant
Cough
Dyspnoea
Abdominal pain

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

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible solids
Danger of dust explosion.
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Hazardous combustion products
In case of fire may be liberated:
Nitrogen oxides (NO_x)
Ammonia (NH₃) Hydrogen cyanide (hydrocyanic acid)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
Avoid contact with skin, eyes and clothes.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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.
Danger of explosion

6.3. Methods and material for containment and cleaning up

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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.
- Take up carefully when dry. Take up dust-free and set down dust-free.

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

- Keep container tightly closed.
- Do not breathe dust.
- Avoid contact with skin, eyes and clothes.
- Read label before use.

Advice on protection against fire and explosion

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Take precautionary measures against static discharges.

Advice on general occupational hygiene

- Wash contaminated clothing prior to re-use.
- Avoid contact with skin, eyes and clothes.

Further information on handling

- Wash contaminated clothing before reuse.
- Wash hands before breaks and after work.
- Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

- Keep container tightly closed.

Hints on joint storage

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

Further information on storage conditions

- Store in a dry place.
- storage temperature < +30°C

7.3. Specific end use(s)

- Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
100-97-0	methenamine			
Worker DNEL, long-term		inhalation	systemic	5,6 mg/m ³
Worker DNEL, long-term		dermal	systemic	6,4 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,2 mg/m ³
Consumer DNEL, long-term		dermal	systemic	3,2 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,8 mg/kg bw/day

PNEC values

CAS No	Substance	Value
100-97-0	methenamine	
Freshwater		3 mg/l
Freshwater (intermittent releases)		30 mg/l
Marine water		0,3 mg/l
Freshwater sediment		10,2 mg/kg
Marine sediment		1,02 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,28 mg/kg

8.2. Exposure controls

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

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 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 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

Wear suitable protective clothing.

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Wash hands before breaks and after work.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: P2

Environmental exposure controls

Do not allow to enter into surface water or drains.

Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	white
Odour:	like: Amines
Odour threshold:	No data available
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	Combustible substance
Lower explosion limits:	20 g/m ³
Upper explosion limits:	No data available
Flash point:	250 °C
Auto-ignition temperature:	390 °C
Decomposition temperature:	> 263 °C
pH-Value (at 20 °C):	7-10 (100 g/l)
Viscosity / kinematic:	No data available
Water solubility: (at 20 °C)	895 g/L
Solubility in other solvents	No data available
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	log Pow: -2,84
Dispersion stability:	No data available
Vapour pressure: (at 20 °C)	<0,01 hPa
Vapour pressure:	No data available
Density (at 20 °C):	1,33 g/cm ³
Relative density:	No data available
Bulk density:	~600 kg/m ³
Relative vapour density:	No data available
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Danger of dust explosion.

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

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Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	100%
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Danger of dust explosion

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent
Nitric acid
Acetic anhydride
Iodine
peroxides, for example hydrogen peroxide
Acid
NO₃, NO₂

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire: 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

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

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

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
100-97-0	methenamine				
	oral	LD50 > 20000 mg/kg	Rat	Food Cosmet. Toxicol. 3, 362-363 (1966)	The study was conducted in 1966 before O
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1997)	OECD Guideline 402

Irritation and corrosivity

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

Sensitising effects

May cause an allergic skin reaction. (methenamine)

Carcinogenic/mutagenic/toxic effects for reproduction

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

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.

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

May cause damage to organs. (kidneys)

Further information

- Vomiting
- Gastrointestinal complaints
- Allergic reactions
- Irritant
- Cough
- Dyspnoea
- Abdominal pain

SECTION 12: Ecological information

12.1. Toxicity

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

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
100-97-0	methenamine					
	Acute fish toxicity	LC50 mg/l	41000	96 h	Lepomis macrochirus	Study report (1976) other: U.S. EPA, 1975: Methods for Acute
	Acute crustacea toxicity	EC50 mg/l	36000	48 h	Daphnia magna	Study report (1980) other: ASTM Committee on Water Quality,
	Algae toxicity	NOEC mg/l	1500	14 d	Pseudokirchneriella subcapitata	Study report (1980) other: National Environmental Research C
	Acute bacteria toxicity	(EC50 mg/l)	> 5000	0,5 h	Vibrio fisheri	Arch. Environ. Contam. Toxicol. 28, 229-

12.2. Persistence and degradability

39 - 47 %; 28 d
MITI-Test

12.3. Bioaccumulative potential

log Pow: -2,84
No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
100-97-0	methenamine	-2,18

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

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a hazardous waste incinerator 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)

14.1. UN number or ID number: UN 1328

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14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Classification code:	F1
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	40
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1328
14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Classification code:	F1
Limited quantity:	5 kg
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1328
14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Special Provisions:	-
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-G

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1328
14.2. UN proper shipping name:	HEXAMETHYLENETETRAMINE
14.3. Transport hazard class(es):	4.1
14.4. Packing group:	III
Hazard label:	4.1
Special Provisions:	A803
Limited quantity Passenger:	10 kg
Passenger LQ:	Y443
Excepted quantity:	E1
IATA-packing instructions - Passenger:	446
IATA-max. quantity - Passenger:	25 kg
IATA-packing instructions - Cargo:	449
IATA-max. quantity - Cargo:	100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

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EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 40, Entry 75

Information according to 2012/18/EU Not subject to 2012/18/EU (SEVESO III)
(SEVESO III):

Marketing and use of explosives precursors (Regulation (EU) 2019/1148):

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 9,12.

Abbreviations and acronyms

Flam. Sol: Flammable solid

Skin Sens: Skin sensitisation

Relevant H and EUH statements (number and full text)

H228 Flammable solid.

H317 May cause an allergic skin reaction.

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.