

according to Regulation (EC) No 1907/2006

## Hexamethylenetetramine pure

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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

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

#### 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

ACD

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
 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:







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#### **Hazard statements**

H228 Flammable solid.

H317 May cause an allergic skin reaction.

# **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

### Relevant ingredients

CAS No	Chemical name	Chemical name			
	EC No	Index No	REACH No		
	Classification (Regulation (EC) No 1272/2008)				
100-97-0	methenamine	methenamine			
	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. L	fic 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.



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### 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.

#### 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 (NOx)

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** 

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.



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### 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

#### 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. national regulations

### Further information on storage conditions

Store in a dry place.

storage temperature < +30°C



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## 7.3. Specific end use(s)

Laboratory chemicals

# **SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

### **DNEL/DMEL values**

CAS No	Substance						
DNEL type		Exposure route	Effect	Value			
100-97-0	methenamine						
Worker DNEL, long-term		inhalation	systemic	5,6 mg/m³			
Worker DNEL, long-term		dermal	systemic	6,4 mg/kg bw/day			
Consumer DNEL, long-term		inhalation	systemic	1,2 mg/m³			
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			
Environmental compartment Value				
100-97-0	methenamine			
Freshwater	reshwater			
Freshwater (intermittent releases) 30				
Marine wate	0,3 mg/l			
Freshwater	Freshwater sediment 7			
Marine sedir	Marine sediment			
Micro-organ	100 mg/l			
Soil	Soil			

## 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



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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.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

### Respiratory protection

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

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

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **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:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

Combustible substance Flammability: Lower explosion limits: 20 g/m<sup>3</sup> Upper explosion limits: No data available 250 °C Flash point: Auto-ignition temperature: 390 °C > 263 °C Decomposition temperature: 7-10 (100 g/l) pH-Value (at 20 °C): No data available Viscosity / kinematic: Water solubility: 895 g/l

(at 20 °C)

Solubility in other solvents

No data available

Dissolution rate:

Partition coefficient n-octanol/water:

Dispersion stability:

Vapour pressure:

No data available

log Pow: -2,84

No data available

<0,01 hPa

(at 20 °C)

Vapour pressure:

Density (at 20 °C):

Relative density:

Bulk density:

No data available

1,33 g/cm³

No data available

-600 kg/m³



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Relative vapour density:

Particle characteristics:

No data available

No data available

### 9.2. Other information

## Information with regard to physical hazard classes

Explosive properties

Danger of dust explosion.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine

distribution, when whirled up a dust explosion potential may generally be assumed.

Sustained combustibility: No data available

Self-ignition temperature

Solid: No data available
Gas: No data available

Oxidizing properties

No data available

## Other safety characteristics

Evaporation rate:

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

No data available:

Viscosity / dynamic:

Flow time:

No data available

No data available

Further Information
No data available

## **SECTION 10: Stability and reactivity**

## 10.1. Reactivity

Danger of dust explosion

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

## 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

lodine

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



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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

### Toxicocinetics, metabolism and distribution

No data available

## **Acute toxicity**

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

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

#### Irritation and corrosivity

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

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

### Sensitising effects

May cause an allergic skin reaction. (methenamine)

### Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

Reproductive toxicity: 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)



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### **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.

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-	DIN 38412-8

# 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.



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### **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

14.2. UN proper shipping name: HEXAMETHYLENETETRAMINE

4.1 14.3. Transport hazard class(es): 14.4. Packing group: Ш 4.1 Hazard label: F1 Classification code: 5 kg Limited quantity: Excepted quantity: E1 3 Transport category: 40 Hazard No: Ε Tunnel restriction code:

### 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):4.114.4. Packing group:IIIHazard label:4.1Classification code:F1Limited quantity:5 kgExcepted 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):4.114.4. Packing group:IIIHazard label:4.1Special Provisions:-Limited quantity:5 kgExcepted quantity:E1EmS: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):4.114.4. Packing group:IIIHazard label:4.1



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Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

A803

10 kg

Y443

Excepted quantity:

E1

IATA-packing instructions - Passenger:446IATA-max. quantity - Passenger:25 kgIATA-packing instructions - Cargo:449IATA-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

#### **EU** regulatory information

Restrictions on use (REACH, annex XVII):

Entry 40, Entry 75

Information according to Directive

Not subject to 2012/18/EU (SEVESO III)

2012/18/EU (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.

### Abbreviations and acronyms

Flam. Sol. 2: Flammable solids, hazard category 2 Skin Sens. 1: Skin sensitisation, hazard category 1

# Relevant H and EUH statements (number and full text)

H228 Flammable solid.

H317 May cause an allergic skin reaction.

#### **Further Information**

Provide appropriate information, instructions and training to users

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.



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