

# Material Safety Data Sheet

## According to 91/155 EEC

Printing date 24.01.2007

Reviewed on 24.01.2007

### 1 Identification of substance:




- **Product details:** Reagent for water analysis
- **Product name:** Aluminium No. 2
- **Catalog number:** 00515479, (4)515471, (4)515470, 515473(0)
- **Supplier:**  
Tintometer GmbH  
Schleefstraße 8-12  
D - 44287 Dortmund  
Made in Germany
- **Informing department:** Department Laboratory
- **Emergency information:**  
Poison Center Berlin, Germany  
phone: +49(0)30 19240

phone: +49(0)231 94510-0  
e-mail: sales@tintometer.de

### 2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Preparation contains anorganic and organic compounds.

· **Dangerous components:**

CAS: 100-97-0	methenamine	 Xn,  Xi,  F; R 11-42/43	90-100%
EINECS: 202-905-8			
EC Number: 612-101-00-2			

- **Additional information** For the wording of the listed risk phrases refer to section 16.

### 3 Hazards identification

· **Hazard designation:**



Xn Harmful  
F Highly flammable

· **Information pertaining to particular dangers for man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" (1999/45/EC) in the latest valid version.

R 11 Highly flammable.

R 42/43 May cause sensitisation by inhalation and skin contact.

· **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

### \* 4 First aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air or oxygen; call for doctor.
- **After skin contact**  
Instantly wash with water and soap and rinse thoroughly.  
Seek medical treatment.

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- **After eye contact**
    - Rinse opened eye for several minutes (at least 10 min) under running water.
    - Call a doctor immediately.
  - **After swallowing**
    - Seek medical treatment.
    - Drink copious amounts of water, induce vomiting.
  - **The following symptoms may occur:**
    - after inhalation:
      - coughing
      - asthma attacks
      - mucous membrane irritation
    - after swallowing:
      - sickness
      - vomiting
  - **Danger**
    - risk of skin sensitization
    - risk of airways sensitization
- 
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### 5 Fire fighting measures

- **Suitable extinguishing agents**
    - Alcohol-resistant foam
    - Water haze
    - Carbon dioxide
  - **Special hazards caused by the material, its products of combustion or resulting gases:**
    - Development of hazardous combustion gases or vapours possible in the event of fire.
    - nitrogen oxides (NO<sub>x</sub>)
    - Hydrogen cyanide (HCN)
    - nitrous gases
    - ammonia (NH<sub>3</sub>)
  - **Protective equipment:**
    - Wear full protective suit.
    - Wear self-contained breathing apparatus.
  - **Additional information**
    - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
    - Collect contaminated fire fighting water separately. It must not enter drains.
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### 6 Accidental release measures

- **Person-related safety precautions:**
    - Avoid causing dust.
    - Put on breathing apparatus.
    - Wear protective equipment. Keep unprotected persons away.
  - **Measures for environmental protection:**
    - Do not allow product to reach sewage system or water bodies.
    - Damp down gases/fumes/haze with water spray jet.
  - **Measures for cleaning/collecting:**
    - Collect mechanically.
    - Ensure adequate ventilation.
    - Dispose of contaminated material as waste according to item 13.
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### \* 7 Handling and storage

- **Handling**
- **Information for safe handling:**
  - Work only in fume cupboard.
  - Use only in well ventilated areas.
  - Prevent formation of dust.
- **Information about protection against explosions and fires:**
  - Protect from heat.
  - Protect against electrostatic charges.
  - Keep ignition sources away - Do not smoke.
  - Dust can combine with air to form an explosive mixture.
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Further information about storage conditions:**
  - Keep container tightly sealed.
  - Protect from humidity and keep away from water.
  - Protect from the effects of light.
  - Store under dry conditions.
  - This product is hygroscopic.
- **Maximum storage temperature:** 25°C

### \* 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
  - Keep away from foodstuffs, beverages and food.
  - Take off immediately all contaminated clothing
  - Wash hands during breaks and at the end of the work.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter A
- **Protection of hands:** After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
  - nitrile rubber, NBR
  - Recommended thickness of the material:  $\geq 0.11$  mm
- **Penetration time of glove material**
  - Value for the permeation: Level  $\geq 6$  (480 min)
  - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed safety glasses.
- **Body protection:** Protective work clothing.

### 9 Physical and chemical properties:

- |                                       |                      |
|---------------------------------------|----------------------|
| · <b>Form:</b>                        | Tablets              |
| · <b>Colour:</b>                      | White                |
| · <b>Odour:</b>                       | Weak, characteristic |
| · <b>Melting point/Melting range:</b> | 280, Subl.°C         |
| · <b>Boiling point/Boiling range:</b> | Not determined       |
| · <b>Flash point:</b>                 | > 100°C              |

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· <b>Inflammability (solid, gaseous)</b>	Highly flammable.
· <b>Danger of explosion:</b>	Dust explosion possible if in powder or granular form, mixed with air.
· <b>Critical values for explosion:</b>	
<b>Lower:</b>	20 g/m <sup>3</sup>
· <b>Vapour pressure at 20°C:</b>	0.0005 hPa
· <b>Density at 20°C</b>	1.331 g/cm <sup>3</sup>
· <b>Settled apparent density at 20°C</b>	600 kg/m <sup>3</sup>
· <b>Solubility in / Miscibility with Water at 20°C:</b>	895 g/l
· <b>pH-value (9 g/l) at 20°C:</b>	7.5
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
· <b>Solids content:</b>	100.0 %

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Materials to be avoided:**
  - acids
  - peroxides
  - halogenated hydrocarbons
  - iodide
  - oxidizing agents
- **Dangerous reactions**
  - The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion with nitric acid, acetic anhydride
  - Reacts with metals forming hydrogen
  - Forms hydrogen in aqueous solution with metals
  - > Explosive
  - Strong exothermic reaction with acids
  - Reacts with halogenated compounds
  - Corrodes aluminium
- **Dangerous products of decomposition:**
  - formaldehyde
  - nitrous gases
  - ammonia (NH<sub>3</sub>)
  - see chapter 5

## 11 Toxicological information

- **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>100-97-0 methenamine</b>		
Oral	LD50	569 mg/kg (mouse)
	LD50	9200 mg/kg (rat)

- **Primary irritant effect:**
  - **on the skin:** temporary erythema possible
  - **on the eye:** Irritant effect.

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- **Sensitization:**

Sensitization possible by inhalation.  
Sensitization possible by skin contact.

- **Experience with humans:** Can cause kidney damages.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Harmful  
Irritant

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### \*12 Ecological information:

- **Information about elimination (persistence and degradability):**

- **Other information:**

Quantitative data on the ecological effect of this product are not available.  
CAS-No. 100-97-0: 39-47% / 28 d  
The following statements refer to the individual components.

- **Behaviour in environmental systems:**

**100-97-0 methenamine**

log P(o/w)	-2.84 (.)
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- **Mobility and bioaccumulation potential:** Does not accumulate in organisms

- **Ecotoxicological effects:**

- **Aquatic toxicity:**

**100-97-0 methenamine**

EC50	36 mg/l/48h (Daphnia magna)
LC50	49.8 mg/l/96h (Pimephales promelas)
Toxicity EC10	5 g/l (fish)
Toxicity ECo	10 g/l/48h (Daphnia magna)

- **Remark:**

Toxic for fish:  
Magnesium compounds: 100 - 400 mg/l

- **Bacterial toxicity:** sulphates toxic > 2.5 g/l

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment acc. VwVwS Annex 4): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralized.

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### 13 Disposal considerations

- **Product:**

- **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Hand over to disposers of hazardous waste.

- **European waste catalogue**

16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
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- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

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 · **Recommended cleaning agent:** Water, if necessary with cleaning agent.
 

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### \* 14 Transport information

 · **Land transport ADR/RID (cross-border)**

 · **ADR/RID-GGVS/E Class:** 4.1 (F1) Flammable solids, self-reactive substances and solid desensitised explosives.  
 · **Kemler Number:** 40  
 · **UN-Number:** 1328  
 · **Packaging group:** III  
 · **Label:** 4.1  
 · **Designation of goods:** 1328 HEXAMETHYLENETETRAMINE

 · **Maritime transport IMDG:**

 · **IMDG Class:** 4.1  
 · **UN Number:** 1328  
 · **Label:** 4.1  
 · **Packaging group:** III  
 · **EMS Number:** F-A,S-G  
 · **Marine pollutant:** No  
 · **Correct technical name:** HEXAMETHYLENETETRAMINE

 · **Air transport ICAO-TI and IATA-DGR:**

 · **ICAO/IATA Class:** 4.1  
 · **UN/ID Number:** 1328  
 · **Label:** 4.1  
 · **Packaging group:** III  
 · **Correct technical name:** HEXAMETHYLENETETRAMINE

### \* 15 Regulatory information

 · **Designation according to EC guidelines:**

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

 · **Code letter and hazard designation of product:**

Xn Harmful

F Highly flammable

 · **Hazard-determining components of labelling:**

methenamine

 · **Risk phrases:**

11 Highly flammable.

42/43 May cause sensitisation by inhalation and skin contact.

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- **Safety phrases:**

- 16 Keep away from sources of ignition - No smoking.
- 22 Do not breathe dust.
- 24 Avoid contact with skin.
- 37 Wear suitable gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.

- **National regulations**

- **Information about limitation of use:**

- Employment restrictions concerning young persons must be observed.
- Employment restrictions concerning pregnant and lactating women must be observed.

- **Decree to be applied in case of technical fault:**

- Critical quantity values according to the regulations on accidents should be adhered to.

- **Technical instructions (air):**

Class	Share in %
I	90-100

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## 16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant R-phrases**

- 11 Highly flammable.
- 42/43 May cause sensitisation by inhalation and skin contact.

- **Department issuing data specification sheet:** Technical Department

- **\* Data compared to the previous version altered.**

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