

Material Safety Data Sheet

According to 91/155 EEC

Printing date 26.03.2007

Reviewed on 26.03.2007

* 1 Identification of substance:



- **Product details:** Reagent for water analysis
- **Product name:** Molybdate No.1 HR
- **Catalog number:** 00513069, (4)513060, (4)513061, 513063(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: 124-04-9 EINECS: 204-673-3 EC Number: 607-144-00-9	adipic acid	 Xi; R 36	40-45%
CAS: 7681-38-1 EINECS: 231-665-7 EC Number: 016-046-00-X	sodium hydrogensulphate	 Xi; R 41	10-20%

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

* 3 Hazards identification

- **Hazard designation:**



Xi Irritant

- **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 41 Risk of serious damage to eyes.

- **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; consult doctor in case of symptoms.

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- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
 - **After eye contact**
Rinse opened eye for several minutes (at least 10 min) under running water.
Call a doctor immediately.
 - **After swallowing**
Rinse out mouth and then drink plenty of water.
Seek medical treatment.
 - **The following symptoms may occur:**
after inhalation:
coughing
mucous membrane irritation
breathing difficulty
after swallowing:
irritations
sickness
vomiting
gastric or intestinal trouble
After swallowing of large amounts:
fatigue
ataxia (impaired locomotor coordination)
drop in temperature
cramps
-

* 5 Fire fighting measures

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
 - **Special hazards caused by the material, its products of combustion or resulting gases:**
Formation of toxic gases is possible during heating or in case of fire.
nitrogen oxides (NO_x)
Sulphur oxides (SO_x)
Sodium oxide
 - **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
 - **Additional information**
Ambient fire may liberate hazardous vapours.
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
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6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
 - **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
 - **Measures for cleaning/collecting:**
Dispose of contaminated material as waste according to item 13.
Collect mechanically.
Ensure adequate ventilation.
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* 7 Handling and storage

- **Handling**
- **Information about protection against explosions and fires:** The product is not flammable
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.

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Further information about storage conditions:

- Protect from heat and direct sunlight.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
 - This product is hygroscopic.
 - Protect from the effects of light.
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* 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**
Take off immediately all contaminated clothing
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes.
Do not eat, drink or smoke while working.
 - **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
 - **Recommended filter device for short term use:** Filter P2
 - **Protection of hands:**
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
 - **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
 - **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Value for the permeation: Level ≥ 6 (480 min)
 - **Eye protection:** Tightly sealed safety glasses.
 - **Body protection:** Protective work clothing.
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* 9 Physical and chemical properties:

· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	265°C
· Flash point:	> 100°C
· Danger of explosion:	Product is not explosive.
· Density at 20°C	1.541 g/cm ³
· Solubility in / Miscibility with Water:	Soluble
· pH-value (9.95 g/l) at 20°C:	2
· Solvent content:	
Organic solvents:	0.0 %

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· Solids content:	100.0 %
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*10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Materials to be avoided:**
 - alkalis
 - metals
 - alcohols
 - oxidizing agents
- **Dangerous reactions**
 - Reacts with alcohols
 - Reacts with reducing agents
 - Reacts with strong oxidizing agents
 - Forms hydrogen in aqueous solution with metals
 - Liberates acid in contact with water or alcohol.
- **Dangerous products of decomposition:**
 - Sulphur oxides (SO_x)
 - see chapter 5

*11 Toxicological information

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

· LD/LC50 values that are relevant for classification:		
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124-04-9 adipic acid		
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Oral	LD50	5700 mg/kg (rat)
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10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H₃BO₃ calculated on the dry weight		
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Oral	LD50	2660 mg/kg (rat)
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Dermal	LD50	> 2000 mg/kg (rat)
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7681-38-1 sodium hydrogensulphate		
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Oral	LD50	2490 mg/kg (rat)
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- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effect known.
- **Subacute to chronic toxicity:**
 - CAS-No. 10043-35-3:
 - MERCK: Sensitization test (guinea pig): negative (OECD 406)
 - CAS-No. 124-04-9:
 - Sensitization test (guinea pig): negative (IUCLID)
- **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:
 - Irritant

*12 Ecological information:

- **Information about elimination (persistence and degradability):**
- **Other information:**
 - Quantitative data on the ecological effect of this product are not available.
 - The following statements refer to the individual components.

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Product name: Molybdate No.1 HR

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CAS-No. 124-04-9: 100% / 28 d

· Behaviour in environmental systems:	
124-04-9 adipic acid	
log P(o/w)	0.081 (25°C) (OECD)
10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight	
log P(o/w)	0.76 (25°C) (.)

· Ecotoxicological effects:

· Aquatic toxicity:	
124-04-9 adipic acid	
EC50	86 mg/l/48h (Daphnia magna)
LC50	511 mg/l/48h (Leuciscus idus)
	97 mg/l/96h (Pimephales promelas)
10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight	
EC50	133 mg/l/48h (Daphnia magna)
LC50	5600 mg/l/96h (Gambusia affinis)
7681-38-1 sodium hydrogensulphate	
EC50	190 mg/l/48h (Daphnia magna)

· Remark:

Harmful effect due to pH shift.

Toxic for fish:

sulphates > 7 g/l

Forms corrosive mixtures with water even if diluted.

· Algae toxicity:	
124-04-9 adipic acid	
IC50	31 mg/l/72h (Desmodesmus subspicatus)

· Bacterial toxicity: sulphates toxic > 2.5 g/l**· Additional ecological information:**

· BSB5-value:	
124-04-9 adipic acid	
BSB5	0.598 g/g (OECD)

· 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.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

13 Disposal considerations

· Product:**· Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals

· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.

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

* 14 Transport information

· Land transport ADR/RID (cross-border) · ADR/RID-GGVS/E Class: -
· Maritime transport IMDG: · IMDG Class: - · Marine pollutant: No
· Air transport ICAO-TI and IATA-DGR: · ICAO/IATA Class: -

 · **Transport/Additional information:** Not dangerous according to the above specifications.

* 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:**

Xi Irritant

 · **Risk phrases:**

41 Risk of serious damage to eyes.

 · **Safety phrases:**

24 Avoid contact with skin.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

39 Wear eye/face protection.

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.

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**

36 Irritating to eyes.

41 Risk of serious damage to eyes.

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

 · *** Data compared to the previous version altered.**
