



Material Safety Data Sheet

According to 91/155 EEC

Printing date 17.06.2005

Reviewed on 17.06.2005

* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** Iron II LR
- **Catalog number:** 00515429, (4)515420, (4)515422, 515423
- **Supplier:**
Tintometer GmbH
Schleefstraße 8a-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

* 2 Composition/Data on components:

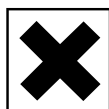
- **Description:** Preparation contains anorganic and organic compounds.

Dangerous components:

CAS: 124-04-9	adipic acid	<input checked="" type="checkbox"/> Xi; R 36	50-60%
EINECS: 204-673-3			
EC Number: 607-144-00-9			

- **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" in the latest valid version.
- R 36 Irritating 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 and call for doctor for safety reasons.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.

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- **After swallowing**
 - Seek medical treatment.
 - Drink copious amounts of water, induce vomiting.
 - **The following symptoms may occur:**
 - after inhalation:
 - coughing
 - mucous membrane irritation
 - breathing difficulty
 - After swallowing of large amounts:
 - gastric or intestinal trouble
 - sickness
 - vomiting
-

* 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.
 - **Protective equipment:** Wear self-contained breathing apparatus.
 - **Additional information**
 - Ambient fire may liberate hazardous vapours.
 - 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.
-

* 6 Accidental release measures

- **Person-related safety precautions:**
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation
 - **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.
-

* 7 Handling and storage

- **Handling**
 - **Information for safe handling:** No special measures required.
 - **Information about protection against explosions and fires:** No special measures required.
 - **Storage**
 - **Requirements to be met by storerooms and containers:**
 - Store in cool location.
 - Unsuitable material for container: steel.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Protect from heat and direct sunlight.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
 - Protect from the effects of light.
 - **Storage class** Not required.
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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:**

1330-43-4 disodium tetraborate, anhydrous

OES (Great Britain) Long-term value: 1 mg/m³

· **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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

nitrile

Recommended thickness of the material: ≥ 0.11 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through 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:

· **Form:** Tablets
 · **Colour:** Yellow
 · **Odour:** Odourless

· **Melting point/Melting range:** Not determined

· **Boiling point/Boiling range:** 265°C

· **Flash point:** $> 100^{\circ}\text{C}$

· **Ignition temperature:** 405°C

· **Self-inflammability:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive.

· **Density** Not determined

· **Solubility in / Miscibility with Water:** Soluble

· **pH-value (9.8 g/l) at 20°C:** 3.8

· **Solvent content:**
 · **Organic solvents:** 0.0 %

· **Solids content:** 100.0 %

* 10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** strong heating

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- **Materials to be avoided:**
 - alkalis
 - oxidizing agents
 - **Dangerous reactions**
 - Reacts with reducing agents
 - Reacts with strong oxidizing agents
 - **Dangerous products of decomposition:** 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:		
124-04-9 adipic acid		
Oral	LD50	5700 mg/kg (rat)
1330-43-4 disodium tetraborate, anhydrous		
Oral	LD50	709 mg/kg (human)
		2660 mg/kg (rat)
	LC 50	807 mg/l (fish)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritant effect.

- **Sensitization:** No sensitizing effect known.

- **Subacute to chronic toxicity:**

- CAS-No. 10043-35-3:

- MERCK: Sensitization test (guinea pig): negative (OECD 406)

- **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.

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

Behaviour in environmental systems:	
124-04-9 adipic acid	
log P(o/w)	0.093 (25°C) (.)
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:**

Acquatic 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)

- **Remark:** Forms corrosive mixtures with water even if diluted.

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· Additional ecological information:
· BSB5-value:

124-04-9 adipic acid	
BSB5	0.598 g/g (-)

· General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system.

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

· 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:

36 Irritating to eyes.

· Safety phrases:

24/25 Avoid contact with skin and eyes.

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

60 This material and its container must be disposed of as hazardous waste.

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.

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- **Department issuing data specification sheet:** Technical Department
 - *** Data compared to the previous version altered.**
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