



Material Safety Data Sheet

According to 91/155 EEC

Printing date 15.03.2005

Reviewed on 15.03.2005

* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** Acidifying GP
- **Catalog number:** 00515489, 515480, 515481
- **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:** Mixture of the substances listed below with harmless additions.

Dangerous components:

CAS: 124-04-9 EINECS: 204-673-3 EC Number: 607-144-00-9	adipic acid	☒ Xi; R 36	45-50%
CAS: 77-92-9 EINECS: 201-069-1	citric acid	☒ Xi; R 36	25-30%

- **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; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.

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- **After eye contact**
Rinse opened eye for several minutes under running water.
Seek medical treatment.
- **After swallowing**
Drink copious amounts of water, induce vomiting.
In case of persistent symptoms consult doctor.
- **The following symptoms may occur:**
after inhalation:
mucous membrane irritation
after swallowing:
irritation

* 5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **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.
- **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.
Avoid causing dust.
- **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
- **Measures for cleaning/collecting:**
Collect mechanically.
Ensure adequate ventilation.
Dispose of contaminated material as waste according to item 13.

* 7 Handling and storage

- **Handling**
- **Information about protection against explosions and fires:** Protect from heat.
- **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.
Protect from humidity and keep away from water.
Store under dry conditions.
- **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:**
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.
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
 - **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:** Light weight protective 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
· Ignition temperature:	345°C
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Vapour pressure at 20°C:	2.7 hPa
· Density at 20°C	1.458 g/cm ³
· Solubility in / Miscibility with Water:	Soluble
· pH-value (9.5 g/l) at 20°C:	2.5
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	100.0 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** strong heating
- **Materials to be avoided:**
oxidizing agents
alkalis

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reducing agents

- **Dangerous reactions**

Reacts with reducing agents

Reacts with strong oxidizing agents

Risk of dust explosion if enriched with fine dust in presence of air

- **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)
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77-92-9 citric acid

Oral	LD50	3000 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

Oral	LD50	2660 mg/kg (rat)
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Dermal	LD50	> 2000 mg/kg (rat)
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- **Primary irritant effect:**

- **on the skin:** No irritant effect.

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

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

- **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.

- **Behaviour in environmental systems:**

124-04-9 adipic acid

log P(o/w)	0.093 (25°C) (.)
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77-92-9 citric acid

log P(o/w)	-1.72 (20°C) (.)
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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

log P(o/w)	0.76 (25°C) (.)
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- **Mobility and bioaccumulation potential:** Does not accumulate in organisms

- **Ecotoxic effects:**

- **Aquatic toxicity:**

124-04-9 adipic acid

EC50	86 mg/l/48h (Daphnia magna)
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LC50	511 mg/l/48h (Leuciscus idus)
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	97 mg/l/96h (Pimephales promelas)
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77-92-9 citric acid

LC50	440-760 mg/l/96h (Leuciscus idus)
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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

EC50	133 mg/l/48h (Daphnia magna)
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· Additional ecological information:

· CSB-value:	
77-92-9 citric acid	
COD	0.728 g/g (.)
· BSB5-value:	
124-04-9 adipic acid	
BSB5	0.598 g/g (-)
77-92-9 citric acid	
BSB5	0.526 g/g (.)

· General notes:

Water hazard class 1 (German Regulation) (Self-assessment): 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
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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:

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

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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.

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

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

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