



The Chemical Company
19 Narragansett Avenue
Jamestown, RI 02835
Phone: (401) 423- 3100

Material Safety Data Sheet

1. Identification of the substance/preparation and the company

Adipic Acid

Application: Intermediate in the chemical industry (for the manufacture of binders or hardeners for coating materials or adhesives)

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2. Composition/ information on ingredients Dicarboxylic acid

Adipic Acid $\geq 99.8 \%$
CAS No. 124-04-9
Hazard Symbol Xi
R-Phrases 36
Index No. 607-144-00-9
EINECS No. 204-673-3

3. Hazards identification Irritating to the eyes.

4. First-aid measure If the product contacts the eyes, rinse carefully and thoroughly with water and seek medical advice. In the event of skin contact, wipe off mechanically and wash affected areas thoroughly with soap and plenty of water. In case of irritation of the respiratory tract or swallowing, consult a doctor.

5. Fire-fighting measures Extinguishing media: CO₂, foam, dry powder; for larger fires, water spray should be used. Firemen must wear self-contained breathing apparatus. Do not allow contaminated extinguishing water to enter the soil, ground water or surface waters.

6. Accidental release measures Take up mechanically; fill into labeled, closable containers. Avoid formation of dust. For further disposal measures see chapter 13.

7. Handling and storage measures Keep container dry and tightly closed in a cool and well ventilated place. Further information on storage conditions, which must be observed to preserve quality, can be found in our product information sheet.

VCI Storage Class: 11

(VCI = German Association of the Chemical Industry) Ensure adequate ventilation or exhaust ventilation in the working area. Take measures to prevent dust formation; remove any dust with air extractors where it is formed. When handling observe the usual precautionary measures for chemicals.

Prevent formation of explosive dust-air mixtures. Take precautionary measures against static discharges.

8. Exposure controls/Personal Protection Wear suitable protective clothing, protective goggles and, if necessary, dust mask during work.

Suitable materials for safety gloves; DIN EN 374-3:

Polychloroprene – CR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber – NBR: thickness $\geq 0,35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber – IIR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

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Fluorinated rubber – FKM: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

Polyvinyl chloride – PVC: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Recommendation: contaminated gloves should be disposed of.

Respiratory protection: In case of dust formation, particle filter, e.g. DIN 3181 P 2.

Avoid contact with skin and eyes and the inhalation of dust.

Change heavily soiled clothing. Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work. Keep working clothes separate.

9. Physical and chemical properties

Form	solid, crystalline powder
Colour	colourless
Odour	odourless
Pour point	approx. 151 °C
Boiling point	approx. 330 °C tested with DIN ISO 3016 (literature information)
Density	approx. 1.34 g/cm ³ at 15 °C
Bulk density	approx. 700 g/l
Vapour pressure	approx. 0.1 mbar at 18,5
Solubility in water	approx. 15 g/l at 10°C (literature information)
In 2-methylpropan-2-ol	approx. 750 g/l at 80 °C
Partition coefficient	log P octanol/water 0 0.093 at 25 °C
PH value	approx. 1.8 at 20 g/l water
Flash point	approx. 196 °C tested w. DIN EN 22719
Ignition temperature	approx. 407 °C tested with DIN 51794
Explosive limits	lower: 11.7 % by vol. upper: 21.1 % by vol.
Remarks	The values for density and viscosity are guide values. Please see the product information sheet

11. Toxicological information

Acute toxicity:

LD50 oral, rat: approx. 5560 mg/kg

LC50 inhalation (dust), rat: more than 7700 mg/m³ air, 4 h of exposure.

Acute inhalation risk, rat: none of the rats died during exposure for 8 h hours to air at 20 °C containing the vapourised product.

Skin and mucous membrane compatibility, rabbit:

Skin 20 hours exposure – non-irritant

Eyes – irritant

12. Ecological information

Eliminability from water:

Degradation	Evaluation	Method of test	Method of analysis
Above 80%	Good Degradability	Closed bottle test	BOD determination
Above 90%	Easily Degradable	OECD-Screening Test (modified)	DOC-determining

The product is readily biodegradable.

Acute toxicity for daphnia:

EC 50 on Daphnia magna: 86 mg/l. Duration of test: 48h

Acute fish toxicity:



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LC0 on Leuciscus idus: 147 mg/l. Duration of test: 48h
LC50 on Leuciscus isud: above 500 mg/l at 48°C

13. Disposal considerations

The relevant EC Directives and local, regional and national regulations must be complied with.

May be incinerated in a suitable facility provided local regulations are observed.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Containers must be recycled in compliance with national legislation and environmental regulations.

14. Transport information

GGVSE: --

UN: NODG: --

RID/ADR: --

UN: NODG PG: --

ADNR: --

UN: NODG PG: --

GGVSee/IMDG Code: --

UN: NODG PG: -- MPO : --

ICAO-TI/IATA-DGR: --

UN: NRES PG: --

Declaration for land shipment: --

Declaration for sea shipment: --

Declaration for shipment by air: --

Other information:

Not dangerous cargo. Irritating to skin and eyes. Keep separated from foodstuffs.

15. Regulatory information

labelling as required by the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3), in accordance with EC Directives:

Symbol: Xi, hazard description: irritant

Adipic Acid

R 36: Irritating to the eyes.

Any existing national regulations on the handling of irritant or corrosive substances must be observed.

Not subject to the German Regulation on Flammable Liquids (VbF).

Water pollution class (WGK): 1 – slightly hazardous to water

WGK = Classification in accordance with the German Water Resources Act

16. Other information

All components of this product are listed in the European Inventory of Existing Commercial Substances (EINECS) under the provisions laid down in the corresponding EC-Directive.

Text of all R phrases referred to in Chapters 2 and 3:

R 36: Irritating to the eyes.

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In accordance with EU Directives