

Adipic acid**27635-25KG**

Version 1.2

Issuing date 11/30/2016

Revision Date 05/28/2020

Print Date 08/03/2021

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : Adipic acid

Number : 000000021493

Recommended use of the chemical and restrictions on use : Laboratory chemicals

Manufacturer or supplier's details : Honeywell Specialty Chemicals Seelze GmbH
Wunstorfer Straße 40
Seelze, 30926

For further information, please contact: : 1-800-368-0050
+1-231-726-3171
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887
In Japan: +(81)-345209637
: (24 hours/day, 7 days/week)

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

Classification of the substance or mixture : Serious eye damage, Category 1
Specific target organ toxicity - single exposure, Category 3,
Respiratory Tract

GHS Label elements, including precautionary statements

Symbol(s)



Signal word

: Danger

Hazard statements

: Causes serious eye damage.
May cause respiratory irritation.

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Precautionary statements

: **Prevention:**

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/ doctor.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

: During processing, dust may form explosive mixture in air.

3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : C₆H₁₀O₄

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Adipic acid	124-04-9	100.00 %
Adipic acid		

4. FIRST AID MEASURES

General advice

: First aider needs to protect himself.

Move out of dangerous area.

Take off all contaminated clothing immediately.

Inhalation

: Remove to fresh air.

Keep patient warm and at rest.

Call a physician immediately.

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Skin contact	: Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Eye contact	: Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Remove contact lenses. Call a physician immediately.
Ingestion	: Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician immediately.
Notes to physician	: Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray Foam Carbon dioxide (CO ₂) Dry powder
Specific hazards during firefighting	: Avoid dust formation in confined areas. Airborne dusts of this product in an enclosed space and in the presence of an ignition source may constitute an explosion hazard. Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges. Static charges on powders or powders in liquids may ignite combustible atmospheres. Hazardous decomposition products formed under fire conditions. In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO ₂)
Special protective equipment for firefighters	: Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.
Further information	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions,	: Wear personal protective equipment.
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protective equipment and
emergency procedures

Evacuate personnel to safe areas.
Provide adequate ventilation.
May form explosive dust-air mixture.
Avoid dust formation.
Accumulations of dust from this product in the workplace may increase the likelihood or severity of an explosion.
Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges.
Eliminate all ignition sources if safe to do so.

Environmental precautions

: Prevent further leakage or spillage if safe to do so.
Should not be released into the environment.

Methods and materials for
containment and cleaning up

: Avoid dust formation and electrical charging (sparking) because dust explosion might occur.
Do not create a powder cloud by using a brush or compressed air.
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).
Use only non-sparking tools.

7. HANDLING AND STORAGE**Handling**

Precautions for safe handling

: Wear personal protective equipment.
Avoid dust formation.
Floors, walls and other surfaces must be regularly cleaned.
The material can accumulate static charge and can therefore cause electrical ignition.
Static charges on powders or powders in liquids may ignite combustible atmospheres.
Take precautionary measures against static discharges.

Advice on protection against
fire and explosion

: All combustible solids have the potential to create a dust explosion hazard. The likelihood of an explosion can be dependent upon many factors, such as the explosive characteristics of the material, the design of the facility, and the manner in which the material is handled. A more detailed discussion can be found in NFPA Bulletin 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids."

Storage

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Conditions for safe storage, including any incompatibilities : Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage : Do not store together with:
Oxidizing agents
Keep away from reducing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

Appropriate engineering controls

Use adequate ventilation and/or engineering controls in high temperature processing to prevent exposure to vapours.

Provide exhaust ventilation if dust is formed.

Use only in an area equipped with explosion proof exhaust ventilation.

Electrical equipment should be protected to the appropriate standard.

If formation of dust is observed, equipment has to be switched off, cleaned and serviced.

Individual protection measures, such as personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection : Latex gloves
Gloves must be inspected prior to use.
Replace when worn.

Eye protection : Safety goggles

Skin and body protection : Protective suit

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
Keep working clothes separately.
Separate rooms are required for washing, showering and changing clothes.

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Do not breathe dust.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: crystalline
Colour	: white
Odour	: odourless
pH	: 2.7 at 23.00 g/l, 25 °C
Melting point/range	: 151 - 154 °C
Boiling point/boiling range	: 265 °C at 133 hPa
Flash point	: 385 °F (196 °C) Method: closed cup
Evaporation rate	: Note: no data available
Flammability	: May form combustible dust concentrations in air.
Lower explosion limit	: Note: no data available
Upper explosion limit	: Note: no data available
Vapour pressure	: 0.097 hPa at 18.5 °C(65.3 °F)
Vapour density	: Note: no data available
Density	: 1.37 g/cm ³ at 20 °C
Water solubility	: 23 g/l at 25 °C

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Solubility in other solvents : Note: Soluble in most organic solvents

Partition coefficient: n-octanol/water : log Pow: 0.093 at 25 °C

Ignition temperature : 420 °C

Decomposition temperature : Note: Stable up to the melting point.

Viscosity, dynamic : Note: no data available

Viscosity, kinematic : Note: no data available

Molecular weight : 146.14 g/mol

Bulk density : ca. 700 kg/m³

10. STABILITY AND REACTIVITY

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Avoid dust formation and electrical charging (sparking) because dust explosion might occur.

Incompatible materials to avoid : Strong oxidizing agents
Reducing agents
Alkalis

Hazardous decomposition products : Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : Note: Not classified due to data which are conclusive although insufficient for classification.

Acute inhalation toxicity : LC0: 7.7 mg/l , dust/mist
Exposure time: 4 h
Species: Rat
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Method: OECD Test Guideline 403

Acute dermal toxicity : LD0: 7,940 mg/kg
Species: Rabbit

Skin irritation : Species: Rabbit
Result: slight irritation
Method: OECD Test Guideline 404

Eye irritation : Species: Rabbit
Result: Severe eye irritation
Method: OECD Test Guideline 405

Sensitisation : Species: Guinea pig
Result: non-sensitizing
Method: Maximisation Test

Repeated dose toxicity : Note: Not classified due to data which are conclusive although insufficient for classification.

Genotoxicity in vitro : Cell type: Chinese hamster fibroblasts
Result: negative
Method: OECD Test Guideline 476

Carcinogenicity : Species: not specified
Note: Not classified due to data which are conclusive although insufficient for classification.

Reproductive toxicity : Species: not specified
Note: Not classified due to data which are conclusive although insufficient for classification.

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish : static test
LC0: > 1,000 mg/l
Exposure time: 96 h
Species: Danio rerio (zebra fish)

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Toxicity to daphnia and other aquatic invertebrates : LC50: 46 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

Toxicity to algae : static test
EC50: 59 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Method: OECD Test Guideline 201

Toxicity to bacteria : static test
4,747 mg/l
Exposure time: 3 h
Species: activated sludge
Method: OECD Test Guideline 209

Persistence and degradability

Biodegradability : aerobic
Result: rapidly biodegradable
Value: 83 %
Method: OECD Test Guideline 301D

Bioaccumulative potential

Bioaccumulation : Bioconcentration factor (BCF): 3,162
Note: The value is calculated

13. DISPOSAL CONSIDERATIONS

Disposal methods : In accordance with local and national regulations.

14. TRANSPORT INFORMATION

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ADR

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods

RID

Not dangerous goods

15. REGULATORY INFORMATION**National regulatory information**

Substances Subject to be :

Notified Names

Threshold Concentration: 1 % wt 10

JP MSDSD

Substances Subject to be :

Article 18

Indicated Names

Threshold limits: 1 % wt 10

JPISHL LR

Fire Service Law

: Not relevant

Japan. ISHL Hazardous

: Listed

Substances Labeling

Adipic acid 124-04-9

Requirements (ISHL Art. 57,

Enforcement Order Art. 18,

Enforcement Rule Art. 30 &

31, as amended through 6

April 2018)

Japan. SDS and Risk

: Listed

Assessment Requirements

Adipic acid 124-04-9

(ISHL Art. 57-2 and 57-3,

Enforcement Order Art. 18-2,

Enforcement Rule Art. 34-2

and 34-2-2), as amended

Poisonous and Deleterious

: Not relevant

Substances Control Law

Other international regulations

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Notification status

US. Toxic Substances
Control Act : On TSCA Inventory

Australia. Industrial Chemical
(Notification and
Assessment) Act : On the inventory, or in compliance with the inventory

Canada. Canadian
Environmental Protection Act
(CEPA). Domestic
Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals
Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. The Toxic
Substances and Hazardous
and Nuclear Waste Control
Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing
Chemical Substances
(IECSC) : On the inventory, or in compliance with the inventory

New Zealand. Inventory of
Chemicals (NZIoC), as
published by ERMA New
Zealand : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any

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material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Previous Issue Date: 10/04/2017

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group