

Material Safety Data Sheet**ADIPIIC ACID DIHYDRAZIDE****1. Identification of the chemical and manufacturer/importer/undertaking**

1.1 Identification of the substance or preparation.

Trade name : Adipic Acid Dihydrazide
 EINECS : 213-999-5
 ELINCS : N/A
 CAS : 1071-93-8
 Formula : C₆H₁₄N₄O₂
 Mol. Weight : 174,2

1.2 Identification of the manufacturer/importer/undertaking

Manufacturer : Carboshale OÜ
 Address : Akadeemia tee 23A
 12618 Tallinn, ESTONIA
 Phone : +372-670 3645
 Fax : +372-656 0159

Emergency contact : Estonia : Call 112
 USA : Chemtrec, call 800 424 9300
 Germany : Call

2. Composition and information on ingredients

2.1 Description

CAS Number	Name of ingredient	Content of dry weight	EINECS Number	Warning symbol, R-phrases, other information
1071-93-8	Adipic Acid Dihydrazide	100 %	213-999-5	Xi,

3. Hazards identification

3.1 Hazard description

Xi Irritant

3.2 Information pertaining to particular dangers for man and environment

R 36/37/38 Irritating to eyes, respiratory system and skin.

4. First Aid Measures

4.1 After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

4.2 After skin contact

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

4.3 After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

4.4 After swallowing

Seek immediate medical advice.

5. Fire-fighting Measures

5.1 Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards caused by the material, its products of combustion or resulting gases

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide, Nitrogen oxides (NOx)

5.3 Protective equipment

Wear self-contained respirator. Wear fully protective impervious suit.

6. Accidental Release Measures

6.1 Person-related safety precautions

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

6.2 Measures for environmental protection

Do not allow material to be released to the environment without proper governmental permits.

6.3 Measures for cleaning/collecting

Ensure adequate ventilation.

6.4 Additional information

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7. Handling and Storage

7.1 Handling

7.1.1 Information for safe handling

Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace.

7.1.2 Information about protection against explosions and fires

No information known.

7.2 Storage

7.2.1 Requirements to be met by storerooms and receptacles

No special requirements.

7.2.2 Information about storage in one common storage facility

Store away from oxidizing agents.

7.2.3 Further information about storage conditions

Keep container tightly sealed. Store in cool, dry conditions in well sealed containers.

7.2.4 Shelf life

In closed package for 2 years

8. Exposure control/Personal protection

8.1 Additional information about design of technical systems

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.2 Components with limit values that require monitoring at the workplace

Hydrazine hydrate CAS 302-01-2

Monomethylhydrazine CAS 60-34-4

Unsymmetrical dimethylhydrazine CAS 57-14-7

Limitation for these three components altogether in adipic dihydrazide is up to 20 ppm (Measured by colorimetry).

8.3 Additional information

No data

8.4 Personal protective equipment

A hydrazine detector with alarm to measure volatile hydrazine in workplace air is recommended

8.5 General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.6 Breathing equipment

Use suitable respirator with filter against fine dust and ammonia when packing, unpacking, loading or otherwise being in the same room with larger quantities of open product.

8.7 Protection of hands

Impervious gloves

8.8 Eye protection

Safety glasses

8.9 Body protection

Protective work clothing.

9. Physical and chemical properties.

9.1	Physical state, color and odor	White odorless powder
9.2	Information on changes in the physical state	
9.2.1	Melting point/Melting range	180-182 ° C
9.2.2	Boiling point/Boiling range	Not determined
9.2.3	Sublimation temperature / start	Not determined
9.3	Flash point	>150 deg ° C
9.4	Ignition temperature	360 deg ° C
9.5	Decomposition temperature	Not determined
9.6	Danger of explosion	Product does not present an explosion hazard
9.7	Explosion limits	
	a) Lower: Not determined	
	b) Upper: Not determined	
9.8	Vapor pressure	Not determined
9.9	Bulk density	550 (kg/m ³)
9.10	Solubility in water	50 g/l
9.11	pH value at 10 g/l, 20° C	9,5

10. Stability and Reactivity

10.1 Thermal decomposition / conditions to be avoided

Decomposition will not occur if used and stored according to specifications.

10.2 Materials to be avoided

Oxidizing agents

10.3 Dangerous reactions

No dangerous reactions known

10.4 Dangerous products of decomposition

Carbon monoxide and carbon dioxide. Nitrogen oxides

11. Toxicological information

11.1 Acute toxicity

11.1.1 Primary irritant effect:

a) on the skin Irritant to skin and mucous membranes.

b) on the eye Irritating effect

11.1.2 Sensitization No sensitizing effects known

11.1.3 LD₅₀ (oral)mouse >5000 mg/kg

11.2 Subacute to chronic toxicity

Other than potential irritation (see above), no information on illness or injury from acute or chronic exposure to this product is available.

11.3 Additional toxicological information

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12. Ecological information

12.1 General notes

Do not allow material to be released to the environment without proper governmental permits.

13. Disposal considerations

13.1 Product

13.1.1 Recommendation

Consult state, local or national regulations for proper disposal.

13.2 Uncleaned packagings

13.2.1 Recommendation

Disposal must be made according to official regulations.

14. Transport information

14.1 Not a hazardous material for transportation.

14.2 DOT regulations

14.2.1 Hazard class None

14.2.2 Land transport ADR/RID (cross-border)

ADR/RID class None

14.2.3 Maritime transport IMDG

IMDG Class None

14.2.4 Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class None

14.3 Transport/Additional information

Not dangerous according to the above specifications.

15. Regulatory information

15.1 Product related hazard information

Hazard symbols **Xi Irritant**

15.2 Risk phrases

36/37/38 Irritating to eyes, respiratory system and skin.

15.3 Safety phrases

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 37 Wear suitable gloves.

15.4 National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

15.5 Information about limitation of use

For use only by technically qualified individuals.

16. Other information

The information contained on the MSDS has been compiled from data considered accurate. This data is believed to be reliable, however, it must be pointed out that values for certain properties are known to vary from source to source. Carboshale OÜ expressly disclaims any warranty expressed or implied as well as any liability for any injury or loss arising from the use of this information or the materials described. This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this material for his application. This data relates only to the specific material designated and not to be used in combination with any other material. Many local regulations pertain directly or indirectly to the product's end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize themselves with all applicable regulations.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.