

# Sovchem<sup>®</sup> ADC

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION	
Manufacturer Sovereign Chemical Company 4040 Embassy Parkway, Suite 190 Akron, OH 44333	Emergency Contact Chemtrec: 1-800-424-9300 (USA) (1)330-542-8400 (outside USA)
Trade Name(s): Sovchem <sup>®</sup> ADC	Synonyms: 1,1'-Azobisformamide
Chemical Name: C, C'-azodi(formamide)	CAS Number: 123-77-3
Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available.	Application of the substance/the preparation: Laboratory chemicals. Manufacture of substances.
Issued By: Sovereign Chemical Company  According to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS	Date of Issue: June 1, 2023

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
 Information in accordance with US 29 CFR 1910.1200 (Hazcom 2012)

Classification according to Regulation (EC) No 1272/2008

The following Hazard Statements are applicable to EU regulations and US GHS regulations:

Flammable solids – Category 1  
 Sensitization – Respiratory Category 1  
 Hazardous to Aquatic environment Category 3

2.2 Label elements  
 Labeling according to Regulation (EC) No 1272/2008  
 The substance is classified and labeled according to the CLP regulation.  
 Hazard pictograms



Signal word: Danger

Hazard-determining components of labeling: C, C'-azodi(formamide)

Hazard statements

H228	Flammable solid
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful to aquatic life with lasting effects

Precautionary statements

- P284           Wear respiratory protection.
- P261           Avoid breathing dust.
- P342+P311    If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P304+P340    IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P501           Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Explosive Product Notice

PREVENTION OF ACCIDENTS IN THE USE OF EXPLOSIVES – The prevention of accidents in the use of explosives is a result of careful planning and observance of the best-known practices. The explosives user must remember that he is dealing with a powerful force and that various devices and methods have been developed to assist him in directing this force. He should realize that this force, if misdirected, may either kill or injure both him and his fellow workers.

WARNING – All explosives are dangerous and must be carefully handled and used following approved safety procedures either by or under the direction of competent, experienced persons in accordance with all applicable federal, state, and local laws, regulations or ordinances. If you have any question or doubts as to how to use any explosive product, DO NOT USE IT before consulting with your supervisor, or the manufacturer, if you do not have a supervisor. If your supervisor has any questions or doubts, he should consult the manufacturer before use.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 Substances

Chemical Name	CAS No	EC No	Weight %	Classification
Azodicarbonamide	123-77-3	204-650-8	≥98%	H228 Flammable solid H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled H412 Harmful to aquatic life with lasting effects
Water	7732-18-5	231-791-2	≤2%	N/A

The remaining unspecified ingredients are impurities and are not hazardous.

**4. FIRST AID MEASURES**

4.1 Description of first aid measures

General information: Take affected persons out into the fresh air.

After inhalation

Remove victim to fresh air, administer oxygen and/or artificial respiration if unconscious. Contact a physician immediately.

In case of unconsciousness place patient stably in side position for transportation

After skin contact

Immediately remove any clothing soiled by the product.

Seek immediate medical advice.  
Rinse with copious amounts of water. Wash with soap and water. Launder affected clothing before reuse.  
After eye contact  
Rinse opened eye for several minutes under running water.  
Remove contact lenses if worn.  
Seek immediate medical advice.  
After swallowing  
Do not induce vomiting.  
Give plenty of water if victim is conscious and able to swallow. Seek immediate medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed

Asthma attacks  
Blast injury if mishandled  
Breathing difficulty  
Coughing  
Allergic reactions  
Hazards  
Danger of blast or crush-type injuries.  
Danger of impaired breathing.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.  
Medical supervision for at least 48 hours.  
If necessary oxygen respiration treatment.  
Later observation for pneumonia and pulmonary edema.  
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.  
Contains C, C' -azodi(formamide). May produce an allergic reaction.  
If medical advice is needed, have product container or label at hand.  
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing agents  
Use water spray, dry chemical, CO<sub>2</sub>, or appropriate foam.  
Water spray or fog may be used to cool containers.  
For safety reasons, unsuitable extinguishing agents: None.

### 5.2 Special hazards arising from the substance or mixture

Danger of receptacles bursting because of high vapor pressure when heated.  
Combustion gases are toxic.  
Can form explosive gas/air mixtures.

### 5.3 Advice for firefighters

Protective equipment  
Wear self-contained respiratory protective device.  
Wear fully protective suit.  
Additional information: Eliminate all ignition sources if safe to do so.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Protect from heat.

Isolate area and prevent access.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up

Dispose contaminated material as waste according to Section 13.

Send for recovery or disposal in suitable receptacles.

### 6.4 Reference to other sections

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 Precautions for safe handling

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122 °F.

Open and handle receptacle with care.

Prevent formation of dust.

Handle with care. Avoid jolting, friction and impact.

Use only in well ventilated areas

Do not subject to grinding/shock/friction.

Information about fire - and explosion protection

Prevent impact and friction.

Keep respiratory protective device available.

Emergency cooling must be available in case of nearby fire.

Dust can combine with air to form an explosive mixture.

Avoid dust cloud formation. Keep ignition sources away. No smoking.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles

Store in a cool location.

Provide ventilation for receptacles.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Store in cool, dry conditions in well-sealed receptacles.

7.3 Specific end use(s): No further relevant information available.

**8. EXPOSURE CONTROLS - PERSONAL PROTECTION**

Additional information about design of technical facilities: No further data; see Section 7.

8.1 Control parameters

Ingredients 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.  
 DNELs: No further relevant information available.  
 PNECs: No further relevant information available.  
 Additional information: No further relevant information available.

8.2 Exposure controls

Personal protective equipment  
 General protective and hygienic measures  
 The usual precautionary measures are to be adhered to when handling chemicals.  
 Keep away from foodstuffs, beverages and feed.  
 Wash hands before breaks and at the end of work.  
 Do not inhale gases/fumes/aerosols.  
 Avoid contact with the eyes and skin.  
 Respiratory protection



Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

Protection of hands



Protective gloves

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

Eye protection

Contact lenses should not be worn.



Safety glasses

Face protection.

Body protection: Impervious protective clothing.  
 Limitation and supervision of exposure into the environment: No further relevant information available.  
 Risk management measures: Organizational measures should be in place for all activities involving this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Information on basic physical and chemical properties

General Information

Appearance: Form: Crystalline Powder. Color: Yellow	Change in Condition: Melt Point/Range: 225°C (437 °F). Boiling point/Range: Undetermined.
Odor: Odorless.	Odor threshold: Not determined.
pH: 5.02	Flash point: Not applicable.
Vapor Pressure: Not determined.	Flammability (solid, gaseous): Not determined.
Density at 20 °C: 0.57 g/cm³ (4757 lbs./gal)	Ignition temperature: Not determined.

Relative density Not determined.	Decomposition temperature: Not determined.
Vapor Density (Air = 1): Not applicable.	Self-igniting: Not determined.
Evaporation rate Not applicable.	Danger of explosion: Risk of explosion if heated under confinement.
Solubility in / Miscibility with water: Slightly soluble.	Oxidizing properties: Non-oxidizing.
Viscosity: Dynamic: Not applicable. Kinematic: Not applicable.	Explosion limits: Lower: Not determined. Upper: Not determined.

9.2 Other information: No further relevant information available.

**10. STABILITY AND REACTIVITY**

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition / conditions to be avoided

Risk of explosion if heated under confinement.

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions: Danger of explosion.

10.4 Conditions to avoid: No further relevant information available.

10.5 Incompatible materials: Strong oxidizers such as perchlorates, bromates and nitrates.

10.6 Hazardous decomposition products: Nitrogen oxides (NO<sub>x</sub>).

**11. TOXICOLOGICAL INFORMATION**

11.1 Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>500 mg/kg (rat)
Inhalation	LD50	>.52 mg/L

Primary irritant effect

Skin corrosion/irritation: Slight irritant effect on skin and mucous membranes.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitization: Sensitization possible through inhalation.

Additional toxicological information: Toxic and/or corrosive effects may be delayed up to 24 hours.

Repeated dose toxicity: No further relevant information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT – Single exposure: Based on available data, the classification criteria are not met.

STOT – repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Aquatic toxicity: No further relevant information available.

**AZODICARBONAMIDE:** LC<sub>50</sub> (Fish) - > 50.0 mg/L-96h  
EC<sub>50</sub> (Crustacea)- 12 mg/L-48h  
ErC<sub>50</sub> (Algae or Other Aquatic Plants)- 36 mg/L-72h

12.2 Persistence and degradability: Not easily biodegradable.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

Additional ecological information

General notes

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system. After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste. The user of this material has the responsibility to dispose of unused material, residues and compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

Uncleaned packaging

Recommendation

Non-contaminated packaging may be recycled.

Empty contaminated packaging thoroughly. They may be recycled after thorough and proper cleaning.

Packaging that may not be cleansed are to be disposed of in the same manner as the product.

Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

14. TRANSPORTATION INFORMATION

14.1 UN-Number  
DOT, ADR, IMDG, IATA UN3242

14.2 UN proper shipping name  
DOT Azodicarbonamide  
ADR 3242 AZODICARBONAMIDE  
IMDG, IATA AZODICARBONAMIDE

14.3 Transport hazard class(es)  
DOT



Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives.  
Label: 4.1

ADR



solid

Class: 4.1 (SR1) Flammable solids, self-reactive substances and desensitized explosives.  
Label: 4.1

IMDG, IATA



Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives.  
Label: 4.1

14.4 Packing group  
DOT, ADR, IMDG, IATA II

14.5 Environmental hazards  
Marine pollutant No  
Special marking (IATA) FORBIDDEN BY AIR

14.6 Special precautions for user Warning: Flammable solids, self-reactive substances and solid desensitized explosives.

Danger code (Kemler) 40  
EMS Number F-J, S-G

14.7 Transport in bulk according to Annex II of



MARPOL73/78 and the IBC Code  
 Transport/Additional information Not applicable.  
 ADR  
 Limited quantities (LQ) 1 kg  
 Excepted quantities (EQ) Code: E0  
 Transport category 2  
 Tunnel restriction code D  
 IMDG  
 Limited quantities (LQ) 500 g  
 Excepted quantities (EQ) Code: E2  
 Maximum net quantity per inner packaging: 30g  
 Maximum net quantity per outer packaging: 500g  
 IATA FORBIDDEN  
 UN "Model Regulation" UN3242, AZODICARBONAMIDE, 4.1, II

**15. REGULATORY INFORMATION**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture United States (USA)

States (USA)	
SARA Section 355 (extremely hazardous substances)	Substance is not listed.
SARA Section 313 (Specific toxic chemical listings)	Substance is not listed.
TSCA (Toxic Substances Control Act)	Substance is listed.
Proposition 65 (California)	
Chemicals known to cause cancer	Substance is not listed.
Chemicals known to cause reproductive toxicity for females	Substance is not listed.
Chemicals known to cause reproductive toxicity for males	Substance is not listed.
Chemicals known to cause developmental toxicity	Substance is not listed.
Carcinogenic Categories	
EPA (Environmental Protection Agency)	Substance is not listed.
IARC (International Agency for Research on Cancer)	Substance is not listed.
TLV (Threshold Limit Value established by ACGIH)	Substance is not listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)	Substance is not listed.
OSHA-Ca (Occupational Safety & Health Administration)	Substance is not listed.
Canada	
Canadian Domestic Substances List (DSL)	Substance is listed.
Canadian Ingredient Disclosure list (limit 0.1%)	Substance is not listed.
Canadian Ingredient Disclosure list (limit 1%)	Substance is not listed.

National regulations

Information about limitation of use

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

Other regulations, limitations and prohibitive regulations

Directive 2012/18/EU

Named dangerous substances – ANNEX I Substance is not listed.

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Substances of very high concern (SVHC) according to REACH, Article 57



## Safety Data Sheet

123-77-3, C, C'-azodi(formamide)

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.