MATERIAL SAFETY DATA SHEET

LANXESS Corporation
Product Safety & Regulatory Affairs
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Pittsburgh, PA 15275-1112
USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC:	(800) 424-9300
INTERNATIONAL:	(703) 527-3887

NON-TRANSPORTATION

LANXESS Emergency Phone:	(800) 410-3063
LANXESS Information Phone:	(800) LANXESS

1. Product and Company Identification

Product Name:	POROFOR ADC/M-C1
Material Number:	4166345
Chemical Family:	Azo/Azoxy Compound
Chemical Name:	Azodicarbonamide
Synonyms:	Diazenedicarboxamide
CAS-No.:	123-77-3
Formula:	C2H4N4O2

2. Hazards Identification

Emergency Overview

WARNING! Color: Yellow **Form:** Solid Powder **Odor:** Negligible.
Flammable. May cause mechanical irritation (abrasion). May form explosive dust-air mixture. Ground containers and equipment before transferring to avoid static sparks. May explode when exposed to heat or flame, or by spontaneous chemical reaction. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Closed container may forcibly rupture under extreme heat. May cause respiratory tract irritation. May cause allergic respiratory reaction.

Potential Health Effects

Primary Routes of Entry:	Inhalation, Skin Contact, Eye Contact, Ingestion
Medical Conditions Aggravated by Exposure:	Respiratory disorders, Eye disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation
Acute Inhalation
For Product: POROFOR ADC/M-C1

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. May cause allergic respiratory reaction with symptoms of coughing, wheezing, shortness of breath, bronchospasm, and reduced lung function.

For Component: Azodicarbonamide
May cause allergic respiratory reaction with symptoms of coughing, wheezing, shortness of breath, bronchospasm, and reduced lung function.

Chronic Inhalation
For Product: POROFOR ADC/M-C1
Repeated and prolonged contact may cause an allergic respiratory reaction in sensitive individuals.

Skin
Acute Skin
For Product: POROFOR ADC/M-C1
Not expected to be irritating.

For Component: Azodicarbonamide
Not expected to be irritating.

Eye
Acute Eye
For Product: POROFOR ADC/M-C1
May cause mechanical irritation.

For Component: Azodicarbonamide
May cause slight irritation.

Ingestion
Acute Ingestion
For Product: POROFOR ADC/M-C1
Not expected to be harmful if swallowed.

For Component: Azodicarbonamide
Not expected to be harmful if swallowed.

Carcinogenicity:
No Carcinogenic substances as defined by IARC, NTP and/or OSHA.

3. Composition/Information on Ingredients

Hazardous Components

Weight %	Components	CAS-No.
>=95%	Azodicarbonamide	123-77-3

OTHER INGREDIENTS
The following potentially hazardous ingredient(s) are contained at levels below disclosure requirements and are provided for informational purposes only., The concentrations reported below in units of parts per million (ppm) or parts per billion (ppb) are maximum values.

Weight %	Components	CAS-No.
25 ppm	Semicarbazide	57-56-7

4. First Aid Measures

Eye Contact
In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

Skin Contact
In case of skin contact, wash affected areas with soap and water.

Inhalation
If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion
Get medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: water

Unsuitable Extinguishing Agents: foam, dry chemical

Special Fire Fighting Procedures
Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize risk of rupture. Closed container may forcibly rupture when exposed to heat. If inadvertent heating results in decomposition and smoke production, spray immediately and thoroughly with water.

Unusual Fire/Explosion Hazards
Dust may form explosive mixtures with air. When highly concentrated in air, the thermal decomposition products are flammable and present an explosion hazard. Unobstructed exhaust of smoke and mist is essential. Risk of explosion if heated under confinement.

6. Accidental release measures

Spill and Leak Procedures
Remove all sources of ignition, including flames, heat, and sparks. Use appropriate personal protective equipment during clean up. Spills should be taken up carefully by mechanical means and placed in clean, labeled plastic drums only. Do not allow spilled material or wash water to enter sewers, surface waters, or groundwater systems. Cover container but do not seal. Avoid creating dusty conditions. Wash spill area with water. Collect wash water for approved disposal.

7. Handling and Storage

Storage Temperature:
maximum: 50 °C (122 °F)

Storage Period
24 Months

Handling/Storage Precautions
Avoid breathing dust. Avoid extreme heat. Do not expose to direct sunlight. Keep away from heat, sparks and open flames. Take precautionary measures against static discharges. Ground and bond containers and equipment before transferring to avoid static sparks. Use non-sparking tools and equipment. Do not store above 122 F (50 C). May form explosive smoke/air mixtures if inadvertently heated or incorrectly stored. Decomposes violently in contact with acids. Avoid friction or rough handling because of fire hazard. Quantities not required for immediate use should be stored in original containers in a separate cool room.

Further Info on Storage Conditions
Do not expose to direct sunlight. Avoid acidic conditions.

8. Exposure Controls / Personal Protection

Country specific exposure limits have not been established or are not applicable

Industrial Hygiene/Ventilation Measures
Use local and general exhaust ventilation to control levels of exposure. Thermal processing equipment should be ventilated to control gases and fumes given off during processing. Small quantities of ammonia, carbon monoxide, and nitrogen are generated during normal use of this product.

Respiratory Protection
Although no exposure limit has been established for this product, the OSHA PEL for Particulates Not Otherwise Regulated (PNOR) of 15 mg/m3 - total dust, 5 mg/m3 - respirable fraction is recommended. In addition, the ACGIH recommends 3 mg/m3 - respirable particles and 10 mg/m3 - inhalable particles for Particles (insoluble or poorly soluble) Not Otherwise Specified (PNOS)., A NIOSH approved particulate filtering respirator can be used to minimize exposure.

Hand Protection
rubber gloves

Eye Protection
goggles.

Skin and body protection
Wear cloth work clothing including long pants and long-sleeved shirts.

Additional Protective Measures
Emergency showers and eye wash stations should be available. Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

9. Physical and chemical properties

Form:	Solid
Appearance:	Powder
Color:	Yellow
Odor:	Negligible
pH:	Neutral, aqueous suspension
Melting Point:	> 195 °C (> 383 °F) Decomposes
Boiling Point/Range:	Decomposition, For the active ingredient.
Flash Point:	> 200 °C (> 392 °F)
Lower Explosion Limit:	Not Established

Upper Explosion Limit:	Not Established
Vapor Pressure:	Not Applicable
Specific Gravity:	Approximately 1.65
Solubility in Water:	Approximately 35 mg/l @ 20 °C (68 °F)
Solubility/Quantitative:	Dimethylformamide soluble
Autoignition Temperature:	Not Established
Decomposition Temperature:	> 75 °C (> 167 °F)
VOC Content:	Negligible
Molecular Weight:	116

10. Stability and Reactivity

Hazardous Reactions
Hazardous polymerization does not occur.

Stability
Stable

Materials to avoid
Acids, Bases, Metal salts, Oxidizing agents

Conditions to avoid
Heat, flames and sparks. This product has a Self Accelerating Decomposition Temperature (SADT) above 167 F (75 C). If heated above 194 F (90 C), exothermic decomposition may occur.

Hazardous decomposition products
By Fire and Thermal Decomposition: Ammonia; Carbon Monoxide; Carbon Dioxide; nitrogen oxides (NOx), Other undetermined compounds

11. Toxicological Information

Toxicity Data for Azodicarbonamide
Acute Oral Toxicity
LD50: > 2,000 mg/kg (Rat)

Acute dermal toxicity
LD50: > 500 mg/kg (Rat)

Skin Irritation
rabbit, Exposure Time: 24 hrs, Non-irritating

Eye Irritation
rabbit, Non-irritating

Sensitization
dermal: ambiguous (Human, Patch Test)
inhalation: sensitizer (Human, Other method)

Repeated Dose Toxicity
14 Days, inhalation: NOAEL: 0.1 mg/l, (Rat)

12. Ecological Information

Ecological Data for Azodicarbonamide
Biodegradation
Aerobic, 70 %, Exposure time: 28 Days
Readily biodegradable.

Bioaccumulation
Not expected to bio-accumulate.

Acute and Prolonged Toxicity to Fish
LC50: > 100 mg/l (Fathead minnow (Pimephales promelas), 96 hrs)

Acute Toxicity to Aquatic Invertebrates
EC50: 11 - 29 mg/l (Water flea (Daphnia magna), 48 hrs)

Toxicity to Aquatic Plants
EC50: > 36 mg/l, (Green algae (Desmodesmus subspicatus), 72 hrs)

Toxicity to Microorganisms
EC50: > 10,000 mg/l, (Activated sludge microorganisms, 3 hrs)

13. Disposal considerations

Waste Disposal Method
Waste disposal should be in accordance with existing federal, state, provincial, and/or local environmental control laws.

Empty Container Precautions
Do not reuse empty container. Recondition or dispose of empty container in accordance with governmental regulations. Label precautions also apply to this container when empty.

14. Transportation information

Land transport (DOT)
Non-Regulated

Sea transport (IMDG)

Proper Shipping Name:	AZODICARBONAMIDE
Hazard Class or Division:	4.1
UN-No:	UN3242
Packaging Group:	II
Hazard Label(s):	Flammable solids

Air transport (ICAO/IATA)
Forbidden

Additional Transportation Information
49CFR: This material has a SADT of greater than 75 C (167 F); therefore, it qualifies for Special Provision 38 of 49 CFR 172.101.

15. Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components
None

SARA Section 311/312 Hazard Categories:
Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Reactivity Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components
None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):
When discarded in its purchased form, this product meets the criteria of ignitability, and should be managed as a hazardous waste (EPA Hazardous Waste Number D001). (40 CFR 261.20-24), When discarded in its purchased form, this product meets the criteria of reactivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D003). (40 CFR 261.20-24), Empty containers meeting the criteria listed in 40 CFR 261.7 may be disposed of as non-hazardous waste.

State Right-To-Know Information
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
>=95%	Azodicarbonamide	123-77-3

California Prop. 65:
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

16. Other Information

NFPA 704M Rating

Health	1
Flammability	3
Reactivity	2
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	1*
Flammability	3
Physical Hazard	2

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
* = Chronic Health Hazard

LANXESS Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS Corporation as a customer service.

Contact Person:	Product Safety Department
Telephone:	(800) LANXESS
MSDS Number:	R300759
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