MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**3-AMINO-3-METHYL-1-BUTYNE, 95%**
Catalog #	3395
Version #	02
Revision date	01-Jul-2010
CAS #	2978-58-7
Synonym(s)	1,1-DIMETHYLPROPARGYLAMINE
Manufacturer information	GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 US www.gfschemicals.com Fax 740-881-5989 Phone 740-881-5501 Toll Free 800-858-9682 Emergency Assistance Chemtrec 800-424-8300

2. Hazards Identification

Emergency overview	DANGER FLAMMABLE LIQUID AND VAPOR. Will be easily ignited by heat, spark or flames. Corrosive. Causes skin and eye burns. Harmful if inhaled. Harmful if swallowed. Harmful if absorbed through skin. The toxicological properties of this material have not been fully investigated. The physical-chemical properties of this material have not been fully investigated.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Causes eye burns. Harmful in contact with eyes. Risk of serious damage to eyes. Do not get this material in contact with eyes.
Skin	Causes skin burns. Harmful in contact with skin. Do not get this material in contact with skin.
Inhalation	Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough. Causes burns. Harmful if inhaled. Do not breathe dust/fume/gas/mist/vapors/spray.
Ingestion	Harmful if swallowed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Do not ingest.
Potential environmental effects	Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
3-AMINO-3-METHYL-1-BUTYNE	2978-58-7	90 - 100

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Skin contact	Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
Ingestion	Have victim rinse mouth thoroughly with water. Do not induce vomiting without advice from poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If material is ingested, immediately contact a poison control center.
Notes to physician	In case of shortness of breath, give oxygen. Keep victim warm.
General advice	Immediate medical attention is required. In case of shortness of breath, give oxygen. Keep victim warm. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties	Flammable by OSHA criteria. Heat may cause the containers to explode. Runoff to sewer may cause fire or explosion hazard.
Extinguishing media	
Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Protection of firefighters	
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Protective equipment and precautions for firefighters	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Ventilate closed spaces before entering them. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods for containment	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Vapors may form explosive mixtures with air. Do not handle or store near an open flame, heat or other sources of ignition. Do not smoke. All equipment used when handling the product must be grounded. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get this material on clothing. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Wash thoroughly after handling.
Storage	The pressure in sealed containers can increase under the influence of heat. Keep away from heat, sparks and open flame. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool place. Store in a well-ventilated place. Keep container tightly closed. Keep in an area equipped with sprinklers. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Engineering controls	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection	Wear protective gloves.
Eye / face protection	Do not get this material in contact with eyes. Wear chemical goggles. Face-shield.
Skin protection	Do not get this material in contact with skin. Do not get this material on clothing. Wear chemical protective equipment that is specifically recommended by the manufacturer. Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Wear appropriate chemical resistant gloves.
General hygeine considerations	Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using, do not eat, drink or smoke. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.
General	Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical & Chemical Properties

Appearance	Clear.
Color	Colorless.
Odor	Not available.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	174.2 - 176 °F (79 - 80 °C)
Flash point	35.6 °F (2 °C)
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	> 11.87 kPa at 25°C
Vapor density	Not available.
Specific gravity	0.79
Relative density	0.79 g/cm3
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Molecular weight	83.1300 g/mol
Molecular formula	HCCC(CH3)2NH2

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions. Risk of ignition.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Oxidizing agents. Acids. Acid chlorides, Acid anhydrides.
Hazardous decomposition products	Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects	The toxicological properties of this material have not been fully investigated and its handling and use may be hazardous. Causes burns.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Corrosivity	Hazardous by OSHA criteria.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	Not available.

13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 F D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
Disposal instructions	Dispose of this material and its container at hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Basic shipping requirements:

Proper shipping name	Amines, flammable, corrosive, n.o.s. or Polyamines, flammable, corrosive, n.o.s.
Hazard class	3
Subsidiary hazard class	8
UN number	UN2733
Packing group	II
Additional information:	
Special provisions	IB2, T11, TP1, TP27
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	243
ERG number	132

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 3
Flammability: 3
Physical hazard: 0

NFPA ratings

Health: 3
Flammability: 3
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. 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.

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01-Jul-2010

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.