Safety Data Sheet

Material Name: 1,2-BUTADIENE **SDS ID: 00233391**

* * * Section 1 - PRODUCT AND COMPANY IDENTIFICATION * * *

Material Name: 1,2-BUTADIENE

Manufacturer Information

ADVANCED GAS TECHNOLOGIES
1401 Stauffer Road
Palm, PA 18070-0035
Mfg Contact: Outside the US: 703-572-3887 (Collect Calls Accepted)

Phone: 1-800-416-2505

Emergency # 1-800-424-9300 (CHEMTREC

Chemical Family

hydrocarbons, aliphatic

Synonyms

Methylallene; 1-Methylallene; C4H6

* * * Section 2 - HAZARDS IDENTIFICATION * * *

EMERGENCY OVERVIEW

Color: colorless
Physical Form: liquid gas
Health Hazards: respiratory tract irritation, skin irritation, eye irritation
Physical Hazards: Flammable gas. May cause flash fire. Flash back hazard. May polymerize. Containers may rupture or explode.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, headache, drowsiness, dizziness, loss of coordination, lung congestion
Long Term: no information on significant adverse effects

Skin

Short Term: irritation
Long Term: irritation

Eye

Short Term: irritation
Long Term: irritation

Ingestion

Short Term: no information is available
Long Term: no information is available

* * * Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS * * *

* * * Section 4 - FIRST AID MEASURES * * *

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

Note to Physicians

For ingestion, consider gastric lavage. Consider oxygen.

* * * Section 5 - FIRE FIGHTING MEASURES * * *

See Section 9 for Flammability Properties

NFPA Ratings: Health: 2 **Fire:** 4 **Reactivity:** 3

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Severe fire hazard. Severe explosion hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

Extinguishing Media

carbon dioxide regular dry chemical

Large fires: Use regular foam or flood with fine water spray.

Fire Fighting Measures

Move container from fire area if it can be done without risk. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking.

Thermal Decomposition Products

Combustion: oxides of carbon

* * * Section 6 - ACCIDENTAL RELEASE MEASURES * * *

Occupational spill/release

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

* * * Section 7 - HANDLING AND STORAGE * * *

Storage Procedures

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

* * * Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION * * *

Component Analysis

ACGIH, OSHA and NIOSH have not developed exposure limits for any of this product's components.

Ventilation

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

* * * Section 9 - PHYSICAL AND CHEMICAL PROPERTIES * * *

Physical State:	Gas	**Appearance:**	Not available
Color:	colorless	**Physical Form:**	liquid gas
Odor:	Not Available	**Odor Threshold:**	Not available
Melting Point:	-136 °C	**Boiling Point:**	11 °C
Flash Point:	<0 °C (CC)	**Vapor Pressure:**	760 mmHg @ 18.5 °C
Vapor Density (air = 1):	1.9	**Specific Gravity (water = 1):**	0.68 @ 0 °C
Water Solubility:	insoluble	**Molecular Formula:**	C4-H6

Solvent Solubility

Soluble: alcohol, ether, benzene

* * * Section 10 - STABILITY AND REACTIVITY * * *

Chemical Stability

May explode if exposed to shock, friction or heating.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

Materials to Avoid

oxidizing materials.

Combustion: oxides of carbon

Possibility of Hazardous Reactions

May polymerize. Avoid contact with incompatible materials.

* * * Section 11 - TOXICOLOGICAL INFORMATION * * *

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

* * * Section 12 - ECOLOGICAL INFORMATION * * *

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

* * * Section 13 - DISPOSAL CONSIDERATIONS * * *

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D003.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

* * * Section 14 - TRANSPORT INFORMATION * * *

US DOT Information

Shipping Name: Butadienes, stabilized
UN/NA #: UN1010 **Hazard Class:** 2.1
Required Label(s): 2.1

TDG Information

Shipping Name: Butadienes, stabilized
UN #: UN1010 **Hazard Class:** 2.1
Required Label(s): 2.1,2.1

* * * Section 15 - REGULATORY INFORMATION * * *

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312

Acute Health: Yes **Chronic Health:** No **Fire:** Yes **Pressure:** Yes **Reactive:** Yes

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

Not regulated under California Proposition 65

Component Analysis - Inventory

No information is available.

* * * Section 16 - OTHER INFORMATION * * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Communicty; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Farenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

End of Sheet 00233391