

Material Safety Data Sheet

Normal-Butyronitrile, P.A.

ACC# 38973

Section 1 - Chemical Product and Company Identification

MSDS Name: Normal-Butyronitrile, P.A.

Catalog Numbers: AC219760000, AC219761000

Synonyms: N-Butanenitrile; 1-Cyanopropane; Propyl Cyanide.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent | EINECS/ELINCS |
|----------|-----------------|---------|---------------|
| 109-74-0 | N-Butyronitrile | 98 | 203-700-6 |

Hazard Symbols: T

Risk Phrases: 11 23/24/25

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 16 deg C. **Danger!** Harmful if absorbed through the skin. Causes eye and skin irritation. May cause respiratory and digestive tract irritation. May be fatal if swallowed. Highly flammable.

Target Organs: Respiratory system, eyes, nervous system, skin.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. Harmful if absorbed through the skin.

Ingestion: May be fatal if swallowed. May cause irritation of the digestive tract. Forms cyanide in the body. Cyanide in the body is capable of producing cyanosis.

Inhalation: May cause respiratory tract irritation.

Chronic: Not available. None

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: 16 deg C (60.80 deg F)

Autoignition Temperature: 501 deg C (933.80 deg F)

Explosion Limits, Lower: 1.65 vol %

Upper: .00 vol %

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to dilute spill to a non-flammable mixture. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Ground and bond containers when transferring material. Do not get on skin and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acids.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use only under a chemical fume hood.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|-----------------|-------------|-------------------------------------|-------------------|
| N-Butyronitrile | none listed | 8 ppm TWA; 22 mg/m ³ TWA | none listed |

OSHA Vacated PELs: N-Butyronitrile: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: suffocating odor - sharp odor

pH: Not available.

Vapor Pressure: 19.5 mm Hg @25C

Vapor Density: 2.4

Evaporation Rate:Not available.

Viscosity: 624@15C

Boiling Point: 117.5 deg C

Freezing/Melting Point:-112 deg C

Decomposition Temperature:Not available.

Solubility: 33 g/l (25 c)

Specific Gravity/Density:.7940g/cm³

Molecular Formula:C₄H₇N

Molecular Weight:69.11

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, strong acids.

Incompatibilities with Other Materials: Strong acids - strong bases - strong oxidizing agents - strong reducing agents.

Hazardous Decomposition Products: Hydrogen cyanide, nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 109-74-0: ET8750000

LD50/LC50:

CAS# 109-74-0:

Draize test, rabbit, eye: 500 mg/24H Mild;

Inhalation, mouse: LC50 = 249 ppm/1H;

Oral, mouse: LD50 = 27689 ug/kg;

Oral, rat: LD50 = 50 mg/kg;

Skin, rabbit: LD50 = 500 uL/kg;

Carcinogenicity:

CAS# 109-74-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Major fate processes are biodegradation and volatilization. Not expected to bioconcentrate.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

| | US DOT | IATA | RID/ADR | IMO | Canada TDG |
|-----------------------|---------------|------|---------|-----|---------------|
| Shipping Name: | BUTYRONITRILE | | | | BUTYRONITRILE |
| Hazard Class: | 3 | | | | 3(6.1) |
| UN Number: | UN2411 | | | | UN2411 |
| Packing Group: | II | | | | II |

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 109-74-0 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 109-74-0: acute, flammable.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 109-74-0 can be found on the following state right to know lists: New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T

Risk Phrases:

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 109-74-0: No information available.

Canada - DSL/NDSL

CAS# 109-74-0 is listed on Canada's DSL List.

Canada - WHMIS

This product does not have a WHMIS classification.

Canadian Ingredient Disclosure List

CAS# 109-74-0 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

Section 16 - Additional Information

MSDS Creation Date: 9/23/1998

Revision #2 Date: 8/02/2001

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.