



Material Safety Data Sheet

Acrylonitrile, 99+% (inhibited with 35-45 ppm MEHQ)

MSDS# 74704

Section 1 - Chemical Product and Company Identification

MSDS Name: Acrylonitrile, 99+% (inhibited with 35-45 ppm MEHQ)
Catalog Numbers: AC149630000, AC149630010, AC149630025, AC149630050, AC149630100, AC149631000
Synonyms: Acrylonitrile monomer; 2-Propenenitrile; Vinyl cyanide; Cyanoethylene.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

Company Identification: (USA) Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

Risk Phrases:

CAS#: 107-13-1
Chemical Name: Acrylonitrile
%: >99
EINECS#: 203-466-5
Hazard Symbols:

Risk Phrases: 22 36 43

CAS#: 150-76-5
Chemical Name: 4-Methoxyphenol
%: .004
EINECS#: 205-769-8
Hazard Symbols: XN

Text for R-phrases: see Section 16

Hazard Symbols:

T F N



Risk Phrases: 45 11 23/24/25 37/38 41 43 51/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Flammable liquid and vapor. May cause allergic skin reaction. Light sensitive. May cause cancer based on animal studies. May be fatal if inhaled, absorbed through the skin or swallowed. Hazardous polymerization may occur. This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable. Causes eye, skin, and respiratory tract irritation. Hazardous due to peroxide initiation of polymerization. Target Organs: Central nervous system, respiratory system, eyes, skin.

Potential Health Effects

- Eye:** Causes severe eye irritation. May result in corneal injury. Lachrymator (substance which increases the flow of tears). Causes redness and pain.
- Skin:** Causes skin irritation. Harmful if absorbed through the skin. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes symptoms similar to those of inhalation.
- Ingestion:** May be fatal if swallowed.
May be fatal if inhaled. Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).
- Inhalation:** Causes respiratory tract irritation. Exposure to high concentrations may cause weakness, asphyxia, and death. May be metabolized to cyanide which in turns act by inhibiting cytochrome oxidase impairing cellular respiration. Material volatilizes at room temperature.
- Chronic:** Acrylonitrile has caused nervous system effects (e.g. reduced nerve conduction) in animals exposed to very low concentrations, which have also been associated with the development of nervous system cancer. Inhalation of relatively low concentrations of acrylonitrile (20 ppm for 24 months) has caused degeneration and inflammatory changes in the nasal cavities of rats.

Section 4 - First Aid Measures

- Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
- Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
- Ingestion:** POISON material. If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
- Inhalation:** POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- Notes to Physician:**
- Antidote:** Always have a cyanide antidote kit on hand when working with cyanide compounds. Get medical advice to use.

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. 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. Flammable liquid and vapor. Fire or excessive heat may result in violent rupture of the container due to bulk polymerization. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.
- Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. 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.
- Autoignition Temperature:** 481 deg C (897.80 deg F)
- Flash Point:** -5 deg C (23.00 deg F)
- Explosion Limits: Lower:** 3.1%
- Explosion Limits: Upper:** 17.0%
- NFPA Rating:** health: 4; flammability: 3; instability: 2;

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. 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. Remove all sources of ignition. Provide ventilation. Use water spray to reduce vapors or divert vapor cloud drift.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Do not breathe vapor. Keep away from heat, sparks and flame. Pure vapor will be uninhibited and may polymerize in vents or other confined spaces. Use only with adequate ventilation or respiratory protection.

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

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Acrylonitrile	2 ppm; Skin - potential significant contribution to overall exposure by the cutaneous route	1 ppm TWA 85 ppm IDLH	2 ppm TWA; 10 ppm Ceiling; 1 ppm Action Level; 2 ppm TWA; 10 ppm Excursion Limit (15 min, Skin and eye exposure prohibited. Cancer hazard - see 29 CFR 1910.1045)
4-Methoxyphenol	5 mg/m ³	5 mg/m ³ TWA	none listed

OSHA Vacated PELs: Acrylonitrile: None listed 4-Methoxyphenol: 5 mg/m³ TWA

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. See 29CFR 1910.1045 for regulations applying to all occupational exposures to acrylonitrile.

Exposure Limits

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

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. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: slightly pungent - garlic-like odor

pH: 5.5-7.5 (5% soln)

Vapor Pressure: 86.25 mm Hg @ 20 deg C

Vapor Density: 1.83 (air=1)

Evaporation Rate: 4.54 (n-Butyl Acetate =1)

Viscosity: 0.35 cps @ 20 deg C

Boiling Point: 77.3 deg C (171.14°F)

Freezing/Melting Point: -83.55 deg C (-118.39°F)

Decomposition Temperature: Not available

Solubility in water: Moderately Soluble 7.3g/100ml

Specific Gravity/Density: 0.806 @ 20°C

Molecular Formula: C3H3N

Molecular Weight: 53.06

Section 10 - Stability and Reactivity

Chemical Stability:	Acrylonitrile vapor or uninhibited liquid may polymerize explosively, if heated, or exposed to sunlight (ultraviolet light), pressure, peroxides, or other incompatible materials. Inhibited liquid may polymerize explosively at temperatures > 200°C.
Conditions to Avoid:	Light, ignition sources, excess heat, loss of inhibitor, confined spaces.
Incompatibilities with Other Materials	Strong oxidizing agents, strong acids, strong bases, amines, halogens, polymerizing initiators.
Hazardous Decomposition Products	Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization	May occur.

Section 11 - Toxicological Information

RTECS#:	CAS# 107-13-1: AT5250000 CAS# 150-76-5: SL7700000
RTECS:	CAS# 107-13-1: Dermal, guinea pig: LD50 = 202 mg/kg; Draize test, rabbit, eye: 100 mg Moderate; Draize test, rabbit, skin: 500 mg Severe; Inhalation, rat: LC50 = 333 ppm/4H; Oral, mouse: LD50 = 27 mg/kg; Oral, rat: LD50 = 78 mg/kg;
LD50/LC50:	Skin, rabbit: LD50 = 63 mg/kg; Skin, rat: LD50 = 148 mg/kg;
RTECS:	CAS# 150-76-5: Draize test, rabbit, skin: 6 gm/12D (Intermittent) Mild; Draize test, rabbit, skin: 10%; Oral, rat: LD50 = 1600 mg/kg;
Carcinogenicity:	Acrylonitrile - ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans California: carcinogen, initial date 7/1/87 NTP: Suspect carcinogen IARC: Group 2B carcinogen 4-Methoxyphenol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:	Fish: Bluegill/Sunfish: 28mg/L; 24H Fish: Fathead Minnow: 10,000ug/L; 96H; Flow-through Daphnia: Water Flea: 13mg/L; 24H
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Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: ACRYLONITRILE, STABILIZED

Hazard Class: 3

UN Number: UN1093
Packing Group: I
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

USA RQ: CAS# 107-13-1: 100 lb final RQ; 45.4 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T F N

Risk Phrases:

R 45 May cause cancer.

R 11 Highly flammable.

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

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 43 May cause sensitization by skin contact.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

S 9 Keep container in a well-ventilated place.

S 16 Keep away from sources of ignition - No smoking.

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

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 107-13-1: 3

CAS# 150-76-5: 1

Canada

CAS# 107-13-1 is listed on Canada's DSL List

CAS# 150-76-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: B2, D1A, D2A, F

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

CAS# 107-13-1 is listed on Canada's Ingredient Disclosure List

CAS# 150-76-5 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 107-13-1 is listed on the TSCA Inventory.

CAS# 150-76-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 3/18/1999

Revision #9 Date 7/20/2009

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 the company 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 the company has been advised of the possibility of such damages.
