



Safety Data Sheet

Version 7.0
Revision Date: 12/01/2021

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **Deuterated Acrylonitrile-d₃**
Product number: D3AN
Product use: For laboratory research purposes.
Supplier / Manufacturer: Polymer Source, Inc.
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2. HAZARDS IDENTIFICATION

GHS classification: Flammable liquids (Category 2)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 2)
Acute toxicity, Dermal (Category 3)
Skin irritation (Category 2)
Serious eye damage (Category 1)
Skin sensitization (Category 1)
Carcinogenicity (Category 1B)
Reproductive toxicity (Category 2)
Specific target organ toxicity – single exposure (Category 3): Respiratory system
Short-term (acute) aquatic hazard (Category 2)
Long-term (chronic) aquatic hazard (Category 2)

GHS Label elements, including precautionary statements:

Pictogram:



Signal word: Danger

Hazard statements: H225. Highly flammable liquid and vapour.
H301 + H311. Toxic if swallowed or in contact with skin.
H315. Causes skin irritation.
H317. May cause an allergic skin reaction.
H318. Causes serious eye damage.
H319. Causes serious eye irritation.
H330. Fatal if inhaled.

H335. May cause respiratory irritation.
H350. May cause cancer.
H361. Suspected of damaging fertility or the unborn.

Precautionary statements:

P201. Obtain special instructions before use.
P202. Do not handle until all safety precautions have been read and understood.
P210. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233. Keep container tightly closed.
P240. Ground and bond container and receiving equipment.
P241. Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242. Use non-sparking tools.
P243. Take action to prevent static discharges.
P260. Do not breathe dust / fume / gas / mist / vapors / spray.
P264. Wash skin thoroughly after handling.
P270. Do not eat, drink or smoke when using this product.
P271. Use only outdoors or in a well-ventilated area.
P272. Contaminated work clothing should not be allowed out of the workplace.
P273. Avoid release to the environment.
P280. Wear protective gloves / protective clothing / eye protection / face protection.
P284. Wear respiratory protection.
P301 + P310 + P330. *IF SWALLOWED:*
Immediately call a Poison Center / doctor. Rinse mouth.
P303 + P361 + P353. *IF ON SKIN (or hair):*
Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310. *IF INHALED:*
Remove person to fresh air and keep comfortable for breathing. Immediately call a Poison Center / doctor.
P305 + P351 + P338 + P310. *IF IN EYES:*
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a Poison Center / doctor.
P308 + P313. *IF exposed or concerned:*
Get medical advice / attention.
P333 + P313. *If skin irritation or rash occurs:*
Get medical advice / attention.
P361 + P364. Take off immediately all contaminated clothing and wash it before reuse.
P370 + P378. *In case of fire:* Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391. Collect spillage.
P403 + P233. Store in a well-ventilated place. Keep container tightly closed.
P403 + P235. Store in a well-ventilated place. Keep cool.
P405. Store locked up.
P501. Dispose of contents / container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: Lachrymator, Vesicant.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Formula:	Acrylonitrile-d ₃ :	C ₃ D ₃ N
Synonym:	Vinyl-d ₃ cyanide	
Molecular weight:	56.02 g/mol	
Concentration:	Deuterated acrylonitrile-d ₃ :	> 98 % *(weight percent)
CAS registry number:	Acrylonitrile-d ₃ :	53807-26-4

4. FIRST AID MEASURES

General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact:	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Conditions of flammability:	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat, sparks, open flame, hot surface. No smoking.
Suitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for firefighters:	Wear self-contained breathing apparatus for firefighting if necessary.
Hazardous combustion products:	Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides.
Explosion data:	Sensitivity to mechanical impact: no data available Sensitivity to static discharge: no data available
Further information:	Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment. Keep away from sources of ignition – No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment:

- Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
- Eye protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin and body protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Specific engineering controls: Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form:	Liquid
	Colour:	Colourless
Safety data:	pH:	no data available
	Melting point / Freezing point:	no data available
	Boling point:	no data available

Flash point:	no data available
Ignition temperature:	no data available
Auto-ignition temperature:	no data available
Lower explosion limit:	no data available
Upper explosion limit:	no data available
Vapour pressure:	no data available
Density:	no data available
Water solubility:	no data available
Partition coefficient: n-octanol/water:	no data available
Relative vapour density:	no data available
Odour:	no data available
Odour threshold:	no data available
Evaporation rate:	no data available

10. STABILITY AND REACTIVITY

Chemical stability:	The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions:	Vapors may form explosive mixture with air.
Conditions to avoid:	Heat. May polymerize on exposure to light. Warming.
Materials to avoid:	Oxidizing agents, Copper.
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides. Other decomposition products: no data available.
Radioactivity:	Stable isotope compound. Not radioactive.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Oral LD50:	no data available
	Inhalation LC50:	no data available
	Dermal LD50:	no data available
	Other information on acute toxicity:	no data available
Skin corrosion/irritation:	no data available	
Serious eye damage/eye irritation.	no data available	
Respiratory or skin sensitization:	no data available	
Germ cell mutagenicity:	no data available	
Carcinogenicity:	IARC:	2B - Group 2B: Possibly carcinogenic to humans (Acrylonitrile-d ₃)

	ACGIH: 2B - Group 2B: Possibly carcinogenic to humans (Acrylonitrile-d ₃)
Reproductive toxicity:	no data available
Teratogenicity:	no data available
Specific target organ toxicity:	Single exposure (Globally Harmonized System): no data available Repeated exposure (Globally Harmonized System): no data available
Aspiration hazard:	no data available
Potential health effects:	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. <i>Symptoms:</i> cough, shortness of breath, headache, nausea. <i>After absorption:</i> Headache, nausea, vomiting, dizziness, agitation, convulsions, respiratory arrest, unconsciousness The following applies to cyanogen compounds / nitriles in general: UTMOST CAUTION! Release of hydrocyanic acid is possible - blockade of cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness. Other dangerous properties can not be excluded.
Synergistic effects:	no data available
Additional information:	RTECS: AT5250000 (<i>for not labelled acrylonitrile</i>) To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity:	no data available
Persistence and degradability:	no data available
Bioaccumulative potential:	no data available
Mobility in soil:	no data available
PBT and vPvB assessment:	no data available
Other adverse effects:	no data available

13. DISPOSAL CONSIDERATIONS

Product:	Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging:	Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US): UN number: 1093
Class: 3 (6.1)
Packing group: I
Proper shipping name: Acrylonitrile
Reportable Quantity (RQ): 100 lbs
Poison Inhalation Hazard: No

IMDG: UN number: 1093
Class: 3 (6.1)
Packing group: I
EMS-No: F-E, S-D
Proper shipping name: Acrylonitrile
Marine pollutant: Yes

IATA: UN number: 1093
Class: 3 (6.1)
Packing group: I
Proper shipping name: Acrylonitrile
IATA passenger: Not permitted for transport

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR, SOR/2015-17) and the SDS contains all the information required by the HPR.

16. OTHER INFORMATION

Date of the latest revision: 12 January 2021

Further information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Polymer Source, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See www.polymersource.ca for additional terms and conditions of sale.