

Material Safety Data Sheet

Diethyl azodicarboxylate, 94%, balance up to 5% dichloromethane

ACC# 02849

Section 1 - Chemical Product and Company Identification

MSDS Name: Diethyl azodicarboxylate, 94%, balance up to 5% dichloromethane

Catalog Numbers: AC407210000, AC407210100, AC407210500

Synonyms: None.

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
1972-28-7	Diethyl azodicarboxylate	>94	217-821-7
75-09-2	Methylene chloride	<5	200-838-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid.

Caution! May cause eye, skin, and respiratory tract irritation. Potential cancer hazard. May cause cancer based on animal studies. The toxicological properties of this material have not been fully investigated.

Target Organs: None known.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: May cause cancer according to animal studies.

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.

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

Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move 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. 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. 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: Use agent most appropriate to extinguish fire. Cool containers with flooding quantities of water until well after fire is out. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: > 110 deg C (> 230.00 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 1; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

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. Keep refrigerated. (Store below 4°C/39°F.)

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Diethyl azodicarboxylate	none listed	none listed	none listed
Methylene chloride	50 ppm TWA	2300 ppm IDLH	25 ppm TWA (8 hr); 125 ppm STEL (15 min); 12.5 ppm Action Level (See 29 CFR 1910.1052)

OSHA Vacated PELs: Diethyl azodicarboxylate: No OSHA Vacated PELs are listed for this chemical. Methylene chloride: 500 ppm TWA

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: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 6.01

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 106 deg C @ 13.00mm Hg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Not available.

Specific Gravity/Density: 1.1060g/cm³

Molecular Formula: C₆H₁₀N₂O₄

Molecular Weight: 174.16

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

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

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

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

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 1972-28-7 unlisted.

CAS# 75-09-2: PA8050000

LD50/LC50:

Not available.

CAS# 75-09-2:

Draize test, rabbit, eye: 162 mg Moderate;

Draize test, rabbit, eye: 10 mg Mild;

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

Draize test, rabbit, skin: 810 mg/24H Severe;

Draize test, rabbit, skin: 100 mg/24H Moderate;

Inhalation, mouse: LC50 = 14400 ppm/7H;

Inhalation, mouse: LC50 = 49100 mg/m³/6H;

Inhalation, mouse: LC50 = 54000 mg/m³/2H;

Inhalation, mouse: LC50 = 56220 mg/m³/7H;

Inhalation, rat: LC50 = 52 gm/m³;

Inhalation, rat: LC50 = 76000 mg/m3/4H;

Inhalation, rat: LC50 =

Carcinogenicity:

CAS# 1972-28-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 75-09-2:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 4/1/88
- **NTP:** Suspect carcinogen
- **IARC:** Group 2B carcinogen

Epidemiology: Has been found to cause cancer in laboratory animals.

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

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:

CAS# 75-09-2: waste number U080.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 1972-28-7 is not listed on the TSCA inventory. It is for research and development use only.

CAS# 75-09-2 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 75-09-2: Effective 10/4/82, Sunset 10/4/92

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.

CERCLA Hazardous Substances and corresponding RQs

CAS# 75-09-2: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 75-09-2: immediate, delayed.

Section 313

This material contains Methylene chloride (CAS# 75-09-2, <5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 75-09-2 is listed as a hazardous air pollutant (HAP).

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. CAS# 75-09-2 is listed as a Priority Pollutant under the Clean Water Act. CAS# 75-09-2 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

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

STATE

CAS# 1972-28-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 75-09-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

WARNING: This product contains Methylene chloride, a chemical known to the state of California to cause cancer.
California No Significant Risk Level: CAS# 75-09-2: 200 æg/day NSRL (inhalation); 50 æg/day NSRL (except inhalation)

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN

Risk Phrases:

R 40 Limited evidence of a carcinogenic effect.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 37 Wear suitable gloves.

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

S 28A After contact with skin, wash immediately with plenty of water

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WGK (Water Danger/Protection)

CAS# 1972-28-7: No information available.

CAS# 75-09-2: 2

Canada - DSL/NDSL

CAS# 75-09-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, F, D2A.

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.

Canadian Ingredient Disclosure List

CAS# 75-09-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/28/1999

Revision #4 Date: 5/17/2004

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.