

# Material Safety Data Sheet

## N-Nitrosodimethylamine, 99+%

ACC# 05254

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** N-Nitrosodimethylamine, 99+%

**Catalog Numbers:** AC128960000, AC128960050, AC128960250

**Synonyms:** Dimethylnitrosamine; Dimethylnitrosoamine; DMN; DMNA; N,N-Dimethylnitrosamine; N-Methyl-N-nitrosomethanamine; N-Nitroso-N,N-dimethylamine; N-Nitrosodimethylamine; NDMA; Nitrosodimethylamine.

**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
62-75-9	N-Nitrosodimethylamine	>99	200-549-8

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: Clear clear liquid. Flash Point: 61 deg C.

**Danger!** May be fatal if inhaled, absorbed through the skin or swallowed. **Combustible liquid and vapor.** Cancer suspect agent. May cause central nervous system depression. Light sensitive. May cause liver and kidney damage. This product contains N-Nitrosodimethylamine, a chemical known to the state of California to cause cancer. Dangerous for the environment. May cause reproductive and fetal effects.

**Target Organs:** Kidneys, central nervous system, liver, lungs.

#### Potential Health Effects

**Eye:** Causes eye irritation. May cause chemical conjunctivitis and corneal damage.

**Skin:** May cause irritation and dermatitis. May cause cyanosis of the extremities. Causes abdominal cramps and headache. May cause jaundice and reduced liver, kidney and lung function.

**Ingestion:** May be fatal if swallowed. May cause headache, fever, nausea, abdominal pain, muscle pain and bloody urine. Causes enlarged liver and liver damage.

**Inhalation:** Aspiration may lead to pulmonary edema. Inhalation at high concentrations may cause CNS depression and asphyxiation.

**Chronic:** Prolonged or repeated exposure may cause changes in the esophagus, ulceration, and bleeding from the small or large intestine.

### Section 4 - First Aid Measures

**Eyes:** Immediately 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. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Induce vomiting only when instructed to do so by a physician.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Use water spray to keep fire-exposed containers cool. Combustible liquid. 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:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers.

**Flash Point:** 61 deg C ( 141.80 deg F)

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 2; Instability: 0

### Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Wash area with soap and water. Cover with sand, dry lime or soda ash and place in a closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Store protected from light. Use only in a chemical fume hood. Discard contaminated shoes. 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. Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light.

## 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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. See 29CFR 1910.1003 for specific regulatory requirements applying to areas containing a listed carcinogen, signs, training, reports, and medical surveillance programs.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
N-Nitrosodimethylamine	Skin - potential significant contribution to overall exposure by the cutaneous route	none listed	(Cancer suspect agent - see 29 CFR 1910.1016)

**OSHA Vacated PELs:** N-Nitrosodimethylamine: 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:** 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:** Clear liquid

**Appearance:** Clear

**Odor:** characteristic odor

**pH:** Not available.

**Vapor Pressure:** 3 mm Hg @ 25 deg C

**Vapor Density:** 2.56

**Evaporation Rate:** Not available.

**Viscosity:** Low

**Boiling Point:** 153 deg C @ 774 mmHg

**Freezing/Melting Point:** Not available.

**Decomposition Temperature:** Not available.

**Solubility:** soluble

**Specific Gravity/Density:** 1.0060g/cm<sup>3</sup>

**Molecular Formula:** C<sub>2</sub>H<sub>6</sub>N<sub>2</sub>O

**Molecular Weight:** 74.08

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. May decompose on exposure to ultraviolet light.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat, ultra violet light.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

### RTECS#:

**CAS#** 62-75-9: IQ0525000

### LD50/LC50:

CAS# 62-75-9:

Inhalation, mouse: LC50 = 57 ppm/4H;

Inhalation, rat: LC50 = 78 ppm/4H;

Oral, rat: LD50 = 37 mg/kg;

Oral, woman: LDLo = 20 mg/kg/2.5Y. (ulceration and bleeding of small intestine, nausea,

### Carcinogenicity:

CAS# 62-75-9:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 10/1/87
- **NTP:** Suspect carcinogen
- **IARC:** Group 2A carcinogen

**Epidemiology:** IARC Group 2A: Suspected human carcinogenic substance. Neoplastigenic and tumorigenic data have been reported.

**Teratogenicity:** Teratogenic effects have occurred in experimental animals.

**Reproductive Effects:** Adverse reproductive effects have occurred in experimental animals.

**Mutagenicity:** Mutagenic effects have occurred in humans.

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. LD50: Rainbow trout, ip: 177 mg/kg/10d. LD50: Crayfish, male (adult): 2250 mg/kg.

**Environmental:** Rapidly volatilizes from warm, moist soil surfaces. Highly mobile in soil and may leach to groundwater. Biodegrades in aerobic and anaerobic conditions. Hydrolysis not expected to be important. Not expected to adsorb to suspended solids in water. Will photodegrade and biodegrade, but will not bioconcentrate in aquatic organisms. Will rapidly degrade in the atmosphere.

**Physical:** Half-life in soil: 3 weeks. Half-life by photodegradation in water: 79 hr. Half-life in atmosphere (estimations): 5 minutes, 30 minutes, 7.2 hours.

**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:** CAS# 62-75-9: waste number P082.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	DOT regulated - small quantity provisions apply (see 49CFR173.4)	No information available.
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 62-75-9 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.

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 62-75-9: 10 lb final RQ; 4.54 kg final RQ

#### SARA Section 302 Extremely Hazardous Substances

CAS# 62-75-9: 1000 lb TPQ

#### Section 313

This material contains N-Nitrosodimethylamine (CAS# 62-75-9, >99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

#### Clean Air Act:

CAS# 62-75-9 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# 62-75-9 is listed as a Priority Pollutant under the Clean Water Act. CAS# 62-75-9 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# 62-75-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains N-Nitrosodimethylamine, a chemical known to the state of California to cause cancer.  
California No Significant Risk Level: CAS# 62-75-9: 0.04 æg/day NSRL

## **European/International Regulations**

### **European Labeling in Accordance with EC Directives**

#### **Hazard Symbols:**

T + N

#### **Risk Phrases:**

R 25 Toxic if swallowed.  
R 26 Very toxic by inhalation.  
R 45 May cause cancer.  
R 48/25 Toxic : danger of serious damage to health by prolonged exposure if swallowed.  
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### **Safety Phrases:**

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S 53 Avoid exposure - obtain special instructions before use.  
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

#### **WGK (Water Danger/Protection)**

CAS# 62-75-9: No information available.

#### **Canada - DSL/NDSL**

CAS# 62-75-9 is listed on Canada's NDSL List.

#### **Canada - WHMIS**

This product has a WHMIS classification of B3, D1A, 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# 62-75-9 is listed on the Canadian Ingredient Disclosure List.

## **Section 16 - Additional Information**

**MSDS Creation Date:** 9/02/1997

**Revision #8 Date:** 10/03/2005

*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.*