

# Material Safety Data Sheet

## N-Nonane, 99%

ACC# 96172

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** N-Nonane, 99%

**Catalog Numbers:** AC129110000, AC129110020, AC129111000, AC129115000

**Synonyms:** Nonane

**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
111-84-2	Nonane	99.0	203-913-4

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 31 deg C.

**Warning! Flammable liquid and vapor.** Causes eye and skin irritation. Causes digestive and respiratory tract irritation. May cause central nervous system depression. May cause cardiac disturbances.

**Target Organs:** Central nervous system, cardiovascular system.

#### Potential Health Effects

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

**Skin:** Causes skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May cause cyanosis of the extremities.

**Ingestion:** Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

**Inhalation:** Causes respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. Exposure produces central nervous system depression. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. May cause burning sensation in the chest.

**Chronic:** Prolonged or repeated skin contact may cause defatting and dermatitis.

### 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.

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

**Ingestion:** Do not induce vomiting. 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.

**Inhalation:** Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**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. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. 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. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Water may be ineffective. Water may spread fire. Do NOT use straight streams of water. For large fires, use water spray, fog or regular foam. For small fires, use dry chemical, carbon dioxide, water spray or regular foam.

**Flash Point:** 31 deg C ( 87.80 deg F)

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:**0.8%

**Upper:** 2.9%

**NFPA Rating:** (estimated) Health: 0; 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. 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. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Do not get on skin or in eyes. Do not ingest or inhale. 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. Flammables-area.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Nonane	200 ppm TWA	200 ppm TWA; 1050 mg/m <sup>3</sup> TWA	none listed

**OSHA Vacated PELs:** Nonane: 200 ppm TWA; 1050 mg/m<sup>3</sup> 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 impervious gloves.

**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:** colorless

**Odor:** gasoline-like

**pH:** Not available.

**Vapor Pressure:** 10 mm Hg @38C

**Vapor Density:** 4.42

**Evaporation Rate:** Not available.

**Viscosity:** .711 cP @ 20C

**Boiling Point:** 150.7 deg C

**Freezing/Melting Point:** -53.7 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Insoluble in water.

**Specific Gravity/Density:** 0.72

**Molecular Formula:** CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>

**Molecular Weight:** 128.14

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

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

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

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

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

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 111-84-2: RA6115000

**LD50/LC50:**

CAS# 111-84-2:

Inhalation, rat: LC50 = 3200 ppm/4H;

Inhalation, rat: LC50 = 17000 mg/m<sup>3</sup>/4H;

**Carcinogenicity:**

CAS# 111-84-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Neurotoxicity:** No information available.

**Mutagenicity:** No information available.

**Other Studies:** See actual entry in RTECS for complete information.

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** Terrestrial: Photolysis or hydrolysis is not expected to be important in soils. Biodegradation may occur in soils; however, volatilization and adsorption are expected to be far more important fate processes. Aquatic: Photolysis and hydrolysis in aquatic systems are not expected to be important. The log bioconcentration factor has been estimated to range from 3.31 to 3.92, suggesting bioconcentration may be an important fate process in aquatic systems. Atmospheric: Expected to exist almost entirely in the vapor phase in ambient air.

**Physical:** No information found.

**Other:** For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA." On soil, substance volatilizes and biodegrades.

## 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	Canada TDG

<b>Shipping Name:</b>	NONANES	NONANES
<b>Hazard Class:</b>	3	3
<b>UN Number:</b>	UN1920	UN1920
<b>Packing Group:</b>	III	III
<b>Additional Info:</b>		FLASHPOINT 31C

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 111-84-2 is listed on the TSCA inventory.

#### Health & Safety Reporting List

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

#### Chemical Test Rules

CAS# 111-84-2: Testing required by manufacturers, processors

#### Section 12b

CAS# 111-84-2: Section 4

#### TSCA Significant New Use Rule

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

#### 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 # 111-84-2: 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 depletors.

This material does not contain any Class 2 Ozone depletors.

#### 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# 111-84-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

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:

Not available.

#### Risk Phrases:

R 10 Flammable.

#### Safety Phrases:

- S 16 Keep away from sources of ignition - No smoking.
- S 23 Do not inhale gas/fumes/vapour/spray.
- S 33 Take precautionary measures against static discharges.
- S 9 Keep container in a well-ventilated place.

**WGK (Water Danger/Protection)**

CAS# 111-84-2: 1

**Canada - DSL/NDSL**

CAS# 111-84-2 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B2, D2B.

**Canadian Ingredient Disclosure List**

CAS# 111-84-2 is listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 3/11/1997

**Revision #6 Date:** 3/18/2003

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