

# Material Safety Data Sheet

## 1,3-Dinitrobenzene

ACC# 07316

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 1,3-Dinitrobenzene

**Catalog Numbers:** AC116970000, AC116970250, AC116971000

**Synonyms:** m-Dinitrobenzene.

**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
99-65-0	1,3-Dinitrobenzene	98	202-776-8

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: yellow crystals.

**Warning!** Harmful if swallowed. May cause severe eye irritation and possible injury. May cause severe skin irritation. Methemoglobin former - can cause cyanosis. May cause liver and kidney damage. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause reproductive and fetal effects.

**Target Organs:** Blood, kidneys, liver, male reproductive system.

#### Potential Health Effects

**Eye:** Causes severe eye irritation. May cause eye injury. Effects may be delayed.

**Skin:** Absorption into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

**Ingestion:** Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause liver and kidney damage. May cause cyanosis.

**Inhalation:** Causes respiratory tract irritation. May cause effects similar to those described for ingestion.

**Chronic:** Adverse reproductive effects have been reported in animals. Chronic exposures of workers to dinitrobenzene have caused anemia; liver injury has been reported in a few cases. Visual impairment has occurred in the form of reduced visual acuity and central scotomas (loss or depression of vision within the central visual field), particularly for red and green colors. A yellow discoloration of the conjunctiva and the sclera was a common observation in these exposures (ACGIH Documentation of the TLV).

### 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.

**Ingestion:** Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**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.

**Extinguishing Media:** Use foam, dry chemical, or carbon dioxide.

**Flash Point:** 302e deg F ( 150.00 deg C)

**Autoignition Temperature:** Not applicable.

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

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 1; Instability: 0

### Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Reduce airborne dust and prevent scattering by moistening with water. Clean up spills immediately, observing precautions in the Protective Equipment section.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

**Storage:** Store in a cool, dry place. Store in a tightly closed container.

## Section 8 - Exposure Controls, Personal Protection

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

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,3-Dinitrobenzene	0.15 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	1 mg/m <sup>3</sup> TWA 50 mg/m <sup>3</sup> IDLH	1 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** 1,3-Dinitrobenzene: 1 mg/m<sup>3</sup> TWA (Listed under 'Dinitrobenzene, all isomers')

### 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:** 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:** Crystals

**Appearance:** yellow

**Odor:** None reported.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 297 deg C

**Freezing/Melting Point:** 88 - 90 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Slightly soluble in water.

**Specific Gravity/Density:** 1.36

**Molecular Formula:** C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>O<sub>4</sub>

**Molecular Weight:** 168.11

## Section 10 - Stability and Reactivity

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

**Conditions to Avoid:** Dust generation.

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

**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# 99-65-0: CZ7350000

### LD50/LC50:

CAS# 99-65-0:

Draize test, rabbit, eye: 100 mg;

Oral, mouse: LD50 = 74700 ug/kg;

Oral, rat: LD50 = 59500 ug/kg;

Skin, rabbit: LD50 = 1900 mg/kg;

### Carcinogenicity:

CAS# 99-65-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** m-Dinitrobenzene impairs sperm production and fertility in rats. The o- and p- isomers did not demonstrate

testicular toxicity.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

**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:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	DINITROBENZENES	DINITROBENZENES
<b>Hazard Class:</b>	6.1	6.1
<b>UN Number:</b>	UN1597	UN1597
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 99-65-0 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# 99-65-0: 100 lb final RQ (Listed under Dinitrobenzene, mixed); 45.4 kg final RQ (Listed u

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

This material contains 1,3-Dinitrobenzene (CAS# 99-65-0, 98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

CAS# 99-65-0 is listed as a Hazardous Substance 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# 99-65-0 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 1,3-Dinitrobenzene, a chemical known to the state of California to cause male reproductive toxicity. 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:

T+ N

#### Risk Phrases:

R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S 60 This material and its container must be disposed of as hazardous waste.  
S 28A After contact with skin, wash immediately with plenty of water.  
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 99-65-0: 3

**Canada - DSL/NDSL**

CAS# 99-65-0 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D1A, D2B.

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# 99-65-0 is listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 9/02/1997

**Revision #6 Date:** 10/05/2004

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