

# Material Safety Data Sheet

## Toluene-d8

ACC# 03023

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Toluene-d8

**Catalog Numbers:** AC321320010, AC351500000, AC351500050

**Synonyms:** Methylbenzene; Methylbenzol; Phenylmethane; Toluol.

**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
2037-26-5	Toluene-d8	>99	218-009-5

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 4 deg C.

**Warning! Flammable liquid and vapor.** Causes eye, skin, and respiratory tract irritation. Breathing vapors may cause drowsiness and dizziness. May be absorbed through intact skin. Aspiration hazard if swallowed. Can enter lungs and cause damage. Possible risk of harm to the unborn child. May cause central nervous system depression.

**Target Organs:** Central nervous system, respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation. Vapors may cause eye irritation.

**Skin:** Causes skin irritation. May be absorbed through the skin. Repeated or prolonged exposure may cause drying and cracking of the skin. Not expected to cause an allergic skin reaction.

**Ingestion:** May cause effects similar to those for inhalation exposure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. May cause central nervous system depression.

**Inhalation:** Causes respiratory tract irritation. Inhalation of high concentrations (>200 ppm) of toluene are clearly associated with CNS encephalopathy, headache, depression, lassitude (weakness, exhaustion), impaired coordination, transient memory loss, and impaired reaction time.

**Chronic:** Prolonged or repeated skin contact may cause defatting and dermatitis. Repeated exposure in combination with constant, loud noise can produce hearing loss and dizziness. Chronic hydrocarbon abuse (for example, sniffing glue or light hydrocarbons such as contained in this material) has been associated with irregular heart rhythms and potential cardiac arrest. Toluene abuse has been linked with kidney disease, as evidenced by blood, protein, & pus in the urine, accompanied by elevated serum creatinine, decreased urinary output, & metabolic & renal tubular acidosis. Although kidney toxicity has not been common in cases of occupational toluene exposure, there has been at least one report of renal toxicity following a 40-year occupational toluene exposure. Toluene does not cause the severe injury to the bone marrow that is characteristic of benzene poisoning. Intentional abuse of toluene vapors has been linked to damage of the brain, liver, kidney and to death. Repeated inhalation exposure of toluene to animals causes histological changes in the brain, degeneration of the heart tissue, and possible immune suppression.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

**Ingestion:** Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Causes cardiac sensitization to endogenous catecholamines which may lead to cardiac arrhythmias. Do NOT use adrenergic agents such as epinephrine or pseudoepinephrine.

### 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. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire. May accumulate static electricity.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam. Solid streams of water may be ineffective and spread material.

**Flash Point:** 4 deg C ( 39.20 deg F)  
**Autoignition Temperature:** 480 deg C ( 896.00 deg F)  
**Explosion Limits, Lower:**1.1 vol%  
**Upper:** 7.1 vol%  
**NFPA Rating:** (estimated) Health: 2; 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. Remove all sources of ignition. Provide ventilation. Use only non-sparking tools and equipment. Control runoff and isolate discharged material for proper disposal. Use water spray to cool and disperse vapors and protect personnel.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid breathing vapor or mist.

**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. Separate from oxidizing materials.

## 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. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Toluene-d8	none listed	none listed	none listed
Toluene	50 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	100 ppm TWA; 375 mg/m3 TWA 500 ppm IDLH	200 ppm TWA; 300 ppm Ceiling

**OSHA Vacated PELs:** Toluene-d8: No OSHA Vacated PELs are listed for this chemical. Toluene: 100 ppm TWA; 375 mg/m3 TWA

### Personal Protective Equipment

**Eyes:** Wear chemical splash goggles.

**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:** Liquid

**Appearance:** colorless

**Odor:** sweetish odor - pleasant odor - benzene-like

**pH:** Not applicable.

**Vapor Pressure:** 28.4 mm Hg @ 25 deg C

**Vapor Density:** 3.1 (Air=1)

**Evaporation Rate:**2.4 (Butyl acetate=1)

**Viscosity:** 0.59 cps @ 20 deg C

**Boiling Point:** 110 deg C

**Freezing/Melting Point:**-84 deg C

**Decomposition Temperature:**Not available.

**Solubility:** Insoluble.

**Specific Gravity/Density:**0.94 (Water=1)

**Molecular Formula:**C7D8

**Molecular Weight:**100.19

## Section 10 - Stability and Reactivity

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

**Conditions to Avoid:** Ignition sources, excess heat, confined spaces.

**Incompatibilities with Other Materials:** Strong oxidizing agents, nitric acid, sulfuric acid.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.

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

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 2037-26-5 unlisted.  
**CAS#** 108-88-3: XS5250000  
**LD50/LC50:**  
Not available.

CAS# 108-88-3:

Draize test, rabbit, eye: 870 ug Mild;  
Draize test, rabbit, eye: 2 mg/24H Severe;  
Draize test, rabbit, skin: 435 mg Mild;  
Draize test, rabbit, skin: 500 mg Moderate;  
Draize test, rabbit, skin: 20 mg/24H Moderate;  
Inhalation, mouse: LC50 = 400 ppm/24H;  
Inhalation, mouse: LC50 = 30000 mg/m3/2H;  
Inhalation, mouse: LC50 = 19900 mg/m3/7H;  
Inhalation, mouse: LC50 = 10000 mg/m3;  
Inhalation, rat: LC50 = 49 gm/m3/4H;  
Oral, rat: LD50 = 636 mg/kg;  
Skin, rabbit: LD50 = 14100

**Carcinogenicity:**

CAS# 2037-26-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 108-88-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** In an epidemiologic study of toluene and pregnancy, occupational exposures to toluene were said to be associated with an increased incidence of renal, urinary, gastrointestinal, and cardiac anomalies. Fetotoxicity (reduced fetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males) were observed in the offspring of rats exposed by inhalation to toluene, in the absence of maternal toxicity.

**Reproductive Effects:** Many reports of reproductive effects of toluene abuse or heavy occupational exposure are confounded by mixed solvent exposure or fetal alcohol syndrome. Women exposed to toluene in lab work had a 4.7-fold increased risk of spontaneous abortions.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. Bluegill LC50=17 mg/L/24H Shrimp LC50=4.3 ppm/96H Fathead minnow LC50=36.2 mg/L/96H Sunfish (fresh water) TLM=1180 mg/L/96H

**Environmental:** From soil, substance evaporates and is microbially biodegraded. In water, substance volatilizes and biodegrades.

**Physical:** Photochemically produced hydroxyl radicals degrade substance.

**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:** None listed.

**RCRA U-Series:**

CAS# 108-88-3: waste number U220.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	DOT regulated - small quantity provisions apply (see 49CFR173.4)	TOLUENE
<b>Hazard Class:</b>		3
<b>UN Number:</b>		UN1294
<b>Packing Group:</b>		II
<b>Additional Info:</b>		FLASHPOINT 4 C

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 2037-26-5 is not listed on the TSCA inventory. It is for research and development use only.

CAS# 108-88-3 is listed on the TSCA inventory.

#### Health & Safety Reporting List

CAS# 108-88-3: 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# 108-88-3: 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 # 108-88-3: immediate, fire.

**Section 313**

This material contains Toluene (CAS# 108-88-3, -%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**Clean Air Act:**

CAS# 108-88-3 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

**Clean Water Act:**

CAS# 108-88-3 is listed as a Hazardous Substance under the CWA. CAS# 108-88-3 is listed as a Priority Pollutant under the Clean Water Act. CAS# 108-88-3 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# 2037-26-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 108-88-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

**California Prop 65**

WARNING: This product contains Toluene, a chemical known to the state of California to cause developmental 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:**

XN F

**Risk Phrases:**

R 11 Highly flammable.

R 38 Irritating to skin.

R 48/20 Harmful : danger of serious damage to health by prolonged exposure through inhalation.

R 63 Possible risk of harm to the unborn child.

R 65 Harmful: may cause lung damage if swallowed.

R 67 Vapours may cause drowsiness and dizziness.

**Safety Phrases:**

S 36/37 Wear suitable protective clothing and gloves.

S 46 If swallowed, seek medical advice immediately and show this container or label.

S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

**WGK (Water Danger/Protection)**

CAS# 2037-26-5: No information available.

CAS# 108-88-3: 2

**Canada - DSL/NDSL**

CAS# 108-88-3 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B2, D2A, 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# 108-88-3 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 1/16/2002

**Revision #3 Date:** 5/04/2005

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