

**Material Safety Data Sheet**  
**Cytoseal™ 280**

**Section 1 - Chemical Product and Company Identification**

**MSDS Name:**

Cytoseal™ 280

**Catalog Numbers:**

8311-4

**Synonyms:**

None Known.

**Company Identification:**

Richard Allan Scientific  
4481 Campus Drive  
Kalamazoo, MI 49008

**Company Phone Number:**

800-522-7270

**Emergency Phone Number:**

800-424-9300

**CHEMTREC Phone Number, US:**

(800) 424-9300

**CHEMTREC Phone Number, Europe:**

(202) 483-7616

**Section 2 - Composition, Information on Ingredients**

CAS#	Chemical Name:	Percent	EINECS/ ELINCS	Hazard Symbols	Risk Phrases
108-88-3	Toluene	58-60	203-625-9	F XN	11 20
28262-63-7	Acrylic Resin	30-34	Not available		
128-37-0	2,6-di-tert-butyl-p-cresol	5-7	204-881-4		
85-68-7	Butyl benzyl phthalate	<1.0	201-622-7		

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**Section 3 - Hazards Identification**

**EMERGENCY OVERVIEW**

*Appearance: Colorless liquid*

*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. May cause liver and kidney damage. Flash Point: 45°F.*

*Target Organs: Kidneys, Central nervous system, Liver, 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.

**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.

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**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:**

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.

**Autoignition Temperature:**

Not available

**Explosion Limits:**

Lower: Not available      Upper: Not available

**Flash Point:**

45°F ( 7.22°C)

**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.

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**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
Toluene	20 ppm TWA	100 ppm TWA; 375 mg/m3 TWA 500 ppm IDLH	200 ppm TWA; 300 ppm Ceiling;
Acrylic Resin 2,6-di-tert-butyl-p-cresol	None listed 2 mg/m3 TWA (inhalable fraction and vapor)	None listed 10 mg/m3 TWA	None listed None listed
Butyl benzyl phthalate	None listed	None listed	None listed

**OSHA Vacated PELs**

Toluene: 100 ppm TWA; 375 mg/m3 TWA  
2,6-di-tert-butyl-p-cresol: 10 mg/m3 TWA

**Personal Protective Equipment**

**Eyes:**

Wear chemical splash goggles.

**Skin:**

Wear appropriate 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.

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**Section 9 - Physical and Chemical Properties**

**Physical State:** Liquid  
**Color:** Colorless  
**Odor:** Aromatic odor  
**pH:** No information found  
**Vapor Pressure:** 47 mm Hg @68°F  
**Vapor Density:** No information found  
**Evaporation Rate:** No information found  
**Viscosity:** No information found  
**Boiling Point:** 231°F  
**Freezing/Melting Point:** No information found  
**Decomposition Temperature:** No information found  
**Solubility in water:** Insoluble.  
**Specific Gravity/Density:** 0.97 kg/L  
**Molecular Formula:** Solution  
**Molecular Weight:** No information found

**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**

**Section 11 - Toxicological Information**

**RTECS:**

CAS# 108-88-3: XS5250000  
CAS# 28262-63-7 unlisted  
CAS# 128-37-0: GO7875000  
CAS# 85-68-7: TH9990000

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**LD50/LC50:**

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/m<sup>3</sup>/2H  
Inhalation, mouse: LC50 = 19900 mg/m<sup>3</sup>/7H  
Inhalation, mouse: LC50 = 10000 mg/m<sup>3</sup>  
Inhalation, rat: LC50 = 49 gm/m<sup>3</sup>/4H  
Oral, rat: LD50 = 636 mg/kg  
Skin, rabbit: LD50 = 14100 uL/kg.

CAS# 28262-63-7:

No information found

CAS# 128-37-0:

Draize test, rabbit, eye: 100 mg/24H Moderate  
Draize test, rabbit, skin: 500 mg/48H Moderate  
Oral, mouse: LD50 = 650 mg/kg  
Oral, mouse: LD50 = 1040 mg/kg  
Oral, rabbit: LD50 = 2100 mg/kg  
Oral, rat: LD50 = 890 mg/kg.

CAS# 85-68-7:

Oral, mouse: LD50 = 4170 mg/kg  
Oral, rat: LD50 = 2330 mg/kg  
Skin, rabbit: LD50 = >10 gm/kg  
Skin, rat: LD50 = 6700 mg/kg.

**Carcinogenicity:**

CAS# 108-88-3: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
CAS# 28262-63-7: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
CAS# 128-37-0: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
CAS# 85-68-7: Not listed as a carcinogen 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:**

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.

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**Other:**

See actual entry in RTECS for complete information.

**Section 12 - Ecological Information**

**Ecotoxicity:**

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 found

**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 Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P Series Wastes**

None of the components are on this list.

**RCRA U Series Wastes**

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

**Section 14 - Transport Information**

**US DOT**

**Canadian TDG**

**Proper Shipping Name:** TOLUENE SOLUTIONS

TOLUENE SOLUTIONS

**Hazard Class:** 3

3

**UN Number:** UN1294

UN1294

**Packing Group:** II

II

USA RQ: CAS# 108-88-3: 1000 lb final RQ; 454 kg final RQ

USA RQ: CAS# 85-68-7: 100 lb final RQ; 45.4 kg final RQ

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**Section 15 - Regulatory Information**

**US Federal**

**TSCA**

CAS# 108-88-3 is listed on the TSCA Inventory.  
CAS# 28262-63-7 is listed on the TSCA Inventory.  
CAS# 128-37-0 is listed on the TSCA Inventory.  
CAS# 85-68-7 is listed on the TSCA Inventory.

**Health and Safety Reporting List**

CAS# 108-88-3: Effective 10/4/82, Sunset 10/4/92  
CAS# 85-68-7: Effective 4/29/83, Sunset 4/29/93

**Chemical Test Rules**

**TSCA Section 12b**

None of the components are on this list.

**TSCA Significant New Use Rule (SNUR)**

None of the components are on this list.

**CERCLA Hazardous Substances and corresponding RQs**

CAS# 108-88-3: 1000 lb final RQ; 454 kg final RQ  
CAS# 85-68-7: 100 lb final RQ; 45.4 kg final RQ

**SARA Section 302 Extremely Hazardous Substances**

None of the components are on this list.

**SARA Hazard Categories**

CAS# 108-88-3: immediate, fire.  
CAS# 128-37-0: immediate.

**SARA Section 313**

This material contains Toluene (CAS# 108-88-3, 58-60%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

**Clean Air Act - Hazardous Air Pollutants (HAPs)**

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

**Clean Air Act - Class 1 Ozone Depleters**

None of the components are on this list.

**Clean Air Act - Class 2 Ozone Depleters**

None of the components are on this list.

**Clean Water Act - Hazardous Substances**

CAS# 108-88-3 is listed as a Hazardous Substance under the CWA.

**Clean Water Act - Priority Pollutants**

CAS# 108-88-3 is listed as a Priority Pollutant under the CWA.  
CAS# 85-68-7 is listed as a Priority Pollutant under the CWA.

**Clean Water Act - Toxic Pollutants**

CAS# 108-88-3 is listed as a Toxic Pollutant under the CWA.

**OSHA - Highly Hazardous**

None of the components are on this list.

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**OSHA - Specifically Regulated Chemicals**

None of the components are on this list.

**US State**

**State Right to Know**

Toluene can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

2,6-di-tert-butyl-p-cresol can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

Butyl benzyl phthalate can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Massachusetts.

**California Prop 65**

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

WARNING: This product contains Butyl benzyl phthalate, a chemical known to the state of California to cause developmental reproductive toxicity.

**California No Significant Risk Level**

None of the components are on this list.

None of the components are on this list.

None of the components are on this list.

None of the components are on this list.

**European/International Regulations**

**European Labelling in Accordance with EC Directives:**

Hazard Symbols: F XN

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)**

No information found

**United Kingdom Occupational Exposure Limits**

No information found

**United Kingdom Maximum Exposure Limits**

No information found

**Canadian DSL/NDSL**

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

CAS# 28262-63-7 is listed on Canada's DSL List.

CAS# 128-37-0 is listed on Canada's DSL List.

CAS# 85-68-7 is listed on Canada's DSL List.

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**Canadian WHMIS Classifications**

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.

CAS# 128-37-0 is listed on the Canadian Ingredient Disclosure List.

CAS# 85-68-7 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Other Information**

Color information has been  
MSDS Creation Date: July 24, 2007  
Revision Date: July 24, 2007

**Revisions were made in Sections:**

5, 14

*This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from us, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from us, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.*