

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier : **PERMA SEEL**

Product Code(s) : None reported.

Product Use : Tissue Surface Embalming Seal, Mixture

Chemical Family : Mixture.

Supplier's name and address:
The Dodge Chemical Company (Canada) Ltd.
 1265 Fewster Drive
 Mississauga, Ontario, Canada
 L4W 1A2

Manufacturer's name and address:
 Refer to Supplier

Information Telephone # : (905) 625-0311

24 Hr. Emergency Tel # : (613) 996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS classification:
 Class B2 (Flammable Liquids) ;
 Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
 Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200). Hazardous classification:
 Flammable liquid ;
 Acute Health Hazard;
 Chronic Health Hazard.

Emergency Overview : Clear colourless liquid. Characteristic aromatic hydrocarbon odour. Warning! Flammable liquid and vapour Vapour may cause flash fire! May be harmful if inhaled or swallowed. May be an aspiration hazard. Can enter the lungs and cause damage. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. Causes skin and eye irritation. Liver and kidney injuries may occur. Prolonged exposure may cause skeletal fluorosis (weakened bone structure). Developmental hazard - Contains material which may adversely affect the developing fetus, based on animal data.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : Inhalation of vapours or mists may cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. In extremely high concentrations, may cause coma, respiratory collapse and death.

Skin : May cause mild to moderate skin irritation. May be absorbed through the skin.

Eyes : May cause moderate to severe irritation. May cause corneal injury.

Ingestion : May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Product may present an aspiration hazard, if ingested in large amounts, causing life-threatening lung injury.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Liver and kidney injuries may occur. Prolonged exposure may cause skeletal fluorosis (weakened bone structure).

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : Developmental hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Acetone	67-64-1	5.00 - 10.00
Toluene	108-88-3	30.00 - 60.00
1-Chloro-4-trifluoromethyl benzene (PCBTF)	98-56-6	5.00 - 10.00

SECTION 4 - FIRST AID MEASURES

- Inhalation** : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. Keep warm and in a quiet place. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.
- Skin contact** : Remove contaminated clothing. Wash off immediately with soap and plenty of water. If irritation persists, seek prompt medical attention. Wash contaminated clothing before re-use.
- Eye contact** : Immediately flush eyes with running water for at least 15 minutes. Seek immediate medical attention/advice.
- Ingestion** : Call a physician or Poison Control Centre immediately. Do NOT induce vomiting. Do not give liquids to drink. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.
- Notes For Physician** : Treat symptomatically. This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES**Fire hazards/conditions of flammability**

- : Flammable liquid and vapour. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel considerable distance and flashback to a source of ignition. Material will float on water and can be re-ignited at the water's surface. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.1200)

- : Flammable Liquid Class 1A

Oxidizing properties

- : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

- : May be sensitive to static discharge. Not expected to be sensitive to mechanical impact.

- Suitable extinguishing media** : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water spray used for cooling purposes.

Hazardous combustion products

- : Carbon oxides, reactive hydrocarbons, aldehydes, hydrogen chloride, hydrogen fluoride

NFPA Rating

- 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious
 Health: 2 Flammability: 4 Instability: 0 Special Hazards: None.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Restrict access to area until completion of clean-up. Keep all other personnel upwind and away from the spill/release. Individuals involved in the cleanup must wear appropriate personal protective equipment. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.
- Spill response/cleanup** : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.
- Prohibited materials** : Do not use combustible absorbents, such as sawdust.

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).
US CERCLA Reportable quantity (RQ): Acetone (5000 lbs / 2270 kg); (toluene) (1000 lbs / 454 kg).

SECTION 7 - HANDLING AND STORAGE

- Safe Handling procedures** : Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks, and open flames. Ground all equipment during handling. Keep away from acids and incompatibles. Use caution when opening cap. Keep containers tightly closed when not in use. Wash thoroughly after handling. Keep out of the reach of children.
- Storage requirements** : Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area. Inspect periodically for damage or leaks.
- Incompatible materials** : Strong oxidizing materials, acids, reducing agents and alkalies.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION**Exposure Limits**

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Acetone	500 ppm	750 ppm	1000 ppm	N/Av
Toluene	20 ppm (skin)	N/Av	200 ppm	300 ppm (ceiling)
1-Chloro-4-trifluoromethyl benzene (PCBTF)	N/Av	N/Av	N/Av	N/Av

Ventilation and engineering measures

- : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

- : Use NIOSH/MSHA approved full-face respirator with an organic vapour cartridge if the recommended exposure limit is exceeded. Advice should be sought from respiratory protection specialists.

Skin protection

- : Solvent-resistant gloves. Advice should be sought from glove suppliers.

Eye / face protection

- : Chemical splash goggles are recommended. Do not wear contact lenses.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn.

General hygiene considerations

- : Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Clear liquid.	Appearance	: colourless
Odour	: Characteristic aromatic hydrocarbon odour	Odour threshold	: N/Av
pH	: N/Av		
Boiling point	: 36 - 38°C (97 - 101°F)	Specific gravity	: 0.98 - 0.995
Melting/Freezing point	: N/Av	Coefficient of water/oil distribution	: N/Av
Vapour pressure (mmHg @ 20° C / 68° F)	: N/Av	Solubility in water	: Negligible
Vapour density (Air = 1)	: > 1	Evaporation rate (n-Butyl acetate = 1)	: > 1

Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: 61%
Flash point	: < 23°C (< 73°F)		
Flash point Method	: TCC	Auto-ignition temperature	: N/Av
Lower flammable limit (% by vol.)	: 1	Upper flammable limit (% by vol.)	: 11
Flame Projection Length	: N/Av	Flashback observed	: N/Av

Section 10: Stability And Reactivity

Stability and reactivity	: Stable at ambient temperatures and pressures. Product may form Carbon monoxide or peroxides on prolonged standing in heat or direct sunlight.
Hazardous polymerization	: Hazardous polymerisation does not occur.
Conditions to avoid	: Keep out of direct sunlight. Keep away from excessive heat, open flames, sparks and other possible sources of ignition.
Materials To Avoid And Incompatibility	: Strong oxidizing materials, acids, reducing agents and alkalies.
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs	: Eyes, skin, respiratory system, central nervous system, liver and kidneys.
Routes of exposure	: <i>Inhalation</i> : YES <i>Skin Absorption</i> : YES <i>Skin & Eyes</i> : YES <i>Ingestion</i> : YES
Toxicological data	: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC₅₀(4hr)	LD₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Acetone	30,000 ppm	5800 mg/kg	> 16,000 mg/kg
Toluene	7350 ppm	5580 mg/kg	12,125 mg/kg
1-Chloro-4-trifluoromethyl benzene (PCBTF)	N/Av	13,000 mg/kg	N/Av

Carcinogenic status	: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects	: Not expected to have other reproductive effects.
Teratogenicity	: Contains Toluene. Toluene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.
Mutagenicity	: Not expected to be mutagenic in humans.
Epidemiology	: Not available.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Synergistic materials	: N/Av
Irritancy	: Moderate to severe eye irritant. Mild to moderate skin irritant.
other important hazards	: CNS depression may result from extreme exposures.
Conditions aggravated by overexposure	: Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders.

SECTION 12 - ECOLOGICAL INFORMATION



Ecotoxicity	: No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
Mobility	: No data is available on the product itself.
Persistence	: No data is available on the product itself.
Bioaccumulation potential	: No data is available on the product itself.
Other Adverse Environmental effects	: No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle waste according to recommendations in Section 7.
Methods of Disposal	: Improper disposal can cause damage to the environment. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Acetone; Toluene)	3	II	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
49CFR/DOT	UN1993	Flammable Liquids, n.o.s. (Contains: Acetone; Toluene)	3	II	
49CFR/DOT Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.150. US CERCLA Reportable quantity (RQ): Acetone (5000 lbs / 2270 kg); Toluene (1000 lbs / 454 kg).				

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): Acetone (5000 lbs / 2270 kg); (toluene) (1000 lbs / 454 kg).

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Acute Health Hazard. Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: (toluene).

US State Right to Know Laws:

California Proposition 65: This product contains a chemical known to the State of California to cause developmental harm. Contains: (toluene).

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Acetone (CA, MA, MN, NJ, PA, RI); (toluene) (CA, MA, MN, NJ, PA, RI).

International Information:

WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

SECTION 16 - OTHER INFORMATION

HMIS Rating : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious
Health: *2 *Flammability:* 4 *Reactivity:* 0

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
 CA: California

CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
 CFR: Code of Federal Regulations
 CNS: Central Nervous System
 DOT: Department of Transportation
 HMIS: Hazardous Materials Identification System
 HSDB: Hazardous Substances Data Bank
 IARC: International Agency for Research on Cancer
 Inh: Inhalation
 LC: Lethal Concentration
 LD: Lethal Dose
 MA: Massachusetts
 MN: Minnesota
 MSHA: Mine Safety and Health Administration
 N/Ap: Not Applicable
 N/Av: Not Available
 NFPA: National Fire Protection Association
 NIOSH: National Institute of Occupational Safety and Health
 NJ: New Jersey
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PA: Pennsylvania
 PEL: Permissible exposure limit
 RCRA: Resource Conservation and Recovery Act
 RI: Rhode Island
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act
 STEL: Short Term Exposure Limit
 TCC: Tagliabue Closed Cup
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2009.
- 2. International Agency for Research on Cancer Monographs, searched 2010.
- 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2010 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheet from manufacturer.
- 5. US EPA Title III List of Lists - October 2006 version.
- 6. California Proposition 65 List - December 18, 2009 version.

<p>Prepared for: The Dodge Chemical Company (Canada) Ltd. 1265 Fewster Drive Mississauga, ON, Canada L4W 1A2 Telephone: (905) 625-0311 Please direct all enquiries to The Dodge Chemical Company (Canada).</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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