

## 1 . Product and company identification

<b>Trade name</b>	: E-6000 - All Colors
<b>Supplier</b>	: Eclectic Products Inc. 1075 Arrowsmith Eugene, OR 97402 541-484-9621
<b>Material uses</b>	: Consumer products: Adhesive.
<b>Manufacturer</b>	: Eclectic Products Inc. 1075 Arrowsmith Eugene, OR 97402 541-484-9621
<b>Code</b>	: 1000132
<b>Validation date</b>	: <b>11/9/2012.</b>
<b>Print date</b>	: 11/9/2012.
<b>Responsible name</b>	: <b>Regulatory Compliance</b>
<b><u>In case of emergency</u></b>	: Eclectic Products Inc. 1075 Arrowsmith Eugene, OR 97402 541-484-9621

## 2 . Hazards identification

<b>Physical state</b>	: Liquid.
<b>Emergency overview</b>	: <b>WARNING!</b>  CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  Irritating to eyes, respiratory system and skin. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation.
<b><u>Potential acute health effects</u></b>	
<b>Inhalation</b>	: <b>I</b> rritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: No known significant effects or critical hazards.
<b>Skin</b>	: Irritating to skin.
<b>Eyes</b>	: Irritating to eyes.
<b><u>Potential chronic health effects</u></b>	
<b>Chronic effects</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.
<b>Target organs</b>	: <b>C</b> ontains material which may cause damage to the following organs: kidneys, the nervous system, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).
<b><u>Over-exposure signs/symptoms</u></b>	
<b>Inhalation</b>	: Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Ingestion</b>	: No specific data.

## 2 . Hazards identification

**Skin** : Adverse symptoms may include the following:  
irritation  
redness

**Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Medical conditions aggravated by over-exposure** : None known.

See toxicological information (section 11)

## 3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Tetrachloroethylene	127-18-4	60-100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## 4 . First aid measures

**Eye contact** :  Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** :  In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** :  Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** :  Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

**Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

### Extinguishing media

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** :  Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** :  Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds  
carbonyl halides

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** :  Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Large spill** :  Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** :  Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

- Handling** :  Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

### Product name

tetrachloroethylene

### Exposure limits

**ACGIH TLV (United States, 2/2010). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. Substances for which there is a Biological Exposure Index or Indices Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.**

STEL: 685 mg/m<sup>3</sup> 15 minute(s).

STEL: 100 ppm 15 minute(s).

TWA: 170 mg/m<sup>3</sup> 8 hour(s).

TWA: 25 ppm 8 hour(s).

**OSHA PEL 1989 (United States, 3/1989). Notes: See Table Z-2.**

TWA: 170 mg/m<sup>3</sup> 8 hour(s).

TWA: 25 ppm 8 hour(s).

**OSHA PEL Z2 (United States, 11/2006).**

AMP: 300 ppm 5 minute(s).

CEIL: 200 ppm

TWA: 100 ppm 8 hour(s).

## 8 . Exposure controls/personal protection

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup:None. [Setaflash. ASTM D3828]
- Color** : Multiple
- Odor** : Not available.
- Boiling/condensation point** : 121.11°C (250°F)
- Specific gravity** : 1.35 to 1.37
- Vapor pressure** : 1.7 kPa (13 mm Hg)
- Estimated Vapor Density** : >1 [Air = 1]
- VOC %** : 0.10-0.12%
- Evaporation rate** : <1 (Water = 1)
- Solubility** : Very slightly soluble in the following materials: water.

## 10 . Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Materials to avoid** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions of reactivity** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

## 11 . Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Tetrachloroethylene	LD Dermal	Rabbit	>3228 mg/kg	-
	LD50	Rat	4678 mg/kg	-
	Intraperitoneal			
	LD50 Oral	Rat	2629 mg/kg	-
	LD50 Unreported	Rat	4000 mg/kg	-
	LDLo	Rat	450 mg/kg	-
	Intratracheal			
	TDLo Oral	Rat	50 mg/kg	-
	LC50 Inhalation Vapor	Rat	34200 mg/m3	8 hours
	LC50 Inhalation Gas.	Rat	4100 ppm	6 hours

### Carcinogenicity

**Conclusion/Summary** : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Tetrachloroethylene	A3	2A	-	+	Possible	-

**IDLH** : Not available.

**Synergistic products** : Not available.

## 12 . Ecological information

**Environmental effects** : Water polluting material. May be harmful to the environment if released in large quantities.

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Tetrachloroethylene	-	Acute EC50 3.64 mg/L Fresh water	Algae - Green algae - Chlamydomonas reinhardtii - Exponential growth phase - 7 days	72 hours
	-	Acute EC50 3 to 6 mg/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss - Fingerling - 6.1 cm	96 hours
	-	Acute EC50 509 ppm Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	96 hours
	-	Acute EC50 504 ppm Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	96 hours
	-	Acute EC50 >500000 ug/L Fresh water	Algae - Green algae - Pseudokirchneriella subcapitata	96 hours
	-	Acute EC50 8500 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Instar - <24 hours	48 hours
	-	Acute EC50 7500 ug/L Fresh water	Daphnia - Water flea - Daphnia	48 hours

## 12 . Ecological information

-	Acute EC50 4680 ug/L Fresh water	magna - Instar - <24 hours Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 6.1 cm - 3.2 g	96 hours
-	Acute LC50 4.99 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 3.5 mg/L Marine water	Crustaceans - ej2:e3n0:7pt - Elminius modestus	48 hours
-	Acute LC50 3 to 6 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Fingerling - 6.1 cm	96 hours
-	Acute LC50 12.6 ppm Marine water	Crustaceans - Opossum shrimp - Americamysis bahia	48 hours
-	Acute LC50 18000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours
-	Acute LC50 9100 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Instar - <24 hours	48 hours
-	Acute LC50 4000 ug/L Fresh water	Fish - Flagfish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling) - 2 to 4 months	96 hours
-	Chronic NOEC >0.4 mg/L Fresh water	Daphnia - Water flea - Daphnia magna	21 days
-	Chronic NOEC <500000 ug/L Fresh water	Algae - Green algae - Pseudokirchneriella subcapitata	96 hours
-	Chronic NOEC 1400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Larvae - 30 to 35 days	32 days
-	Chronic NOEC 500 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Larvae - 30 to 35 days	32 days
-	Chronic erd:i44c:7pt 1.77	Algae - Green algae -	72 hours

## 12 . Ecological information

mg/L Fresh water Chlamydomonas reinhardtii - Exponential growth phase - 7 days

**Conclusion/Summary** : Not available.

### Biodegradability

**Conclusion/Summary** : Not available.





## 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.


Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	1897	Tetrachloroethylene mixture	6.1	III		<p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger aircraft</b> Quantity limitation: 60 to 60 L</p> <p><b>Cargo aircraft</b> Quantity limitation: 220 to 220 L</p> <p><b>Remarks</b> Limited quantity : &lt; 1 . 0 gal</p>
<b>TDG Classification</b>	1897	Tetrachloroethylene mixture	6.1	III		<p><b>Explosive Limit and Limited Quantity Index</b> 5</p> <p><b>Passenger Carrying Ship Index</b> 60</p>
<b>IMDG Class</b>	1897	Tetrachloroethylene mixture. Marine pollutant (Tetrachloroethylene)	6.1	III	 	<p><b>Emergency schedules (EmS)</b> F-A, S-A</p> <p>Marine pollutant</p>

## 14 . Transport information

<b>IATA-DGR Class</b>	8000	Consumer commodity	III		<b>Passenger and Cargo Aircraft</b> Quantity limitation: 30 kg
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PG\* : Packing group

## 15 . Regulatory information

**U.S. Federal regulations** : **TSCA 8(b) inventory**. All components are listed or exempted.  
SARA 311/312 - Acute, Chronic

### SARA 313

#### **Form R - Reporting requirements**

<b>Product name</b>	<b>CAS number</b>	<b>Concentration</b>
Tetrachloroethylene	127-18-4	60-100

This product contains toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and subpart C-Supplier Notification Requirement of 40 CFR Part 372.

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

<b>Ingredient name</b>	<b>Cancer</b>	<b>Reproductive</b>
Tetrachloroethylene	Yes.	No.

### Canada

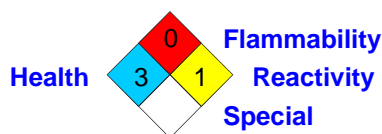
**WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class D-2A: Material causing other toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

**Canada inventory** : All components are listed or exempted.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

### Mexico

**Classification** :



### EU regulations

**Hazard symbol or symbols** :



### **Risk phrases**

: R40- Limited evidence of a carcinogenic effect.  
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### **Safety phrases**

: S2- Keep out of the reach of children.  
S29- Do not empty into drains.  
S36/37- Wear suitable protective clothing and gloves.  
S46- If swallowed, seek medical advice immediately and show this container or label.  
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

### International regulations



## 15 . Regulatory information

- International lists** :  **Australia inventory (AICS)**: Not determined.  
**China inventory (IECSC)**: All components are listed or exempted.  
**Japan inventory**: Not determined.  
**Korea inventory**: All components are listed or exempted.  
**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.  
**Philippines inventory (PICCS)**: All components are listed or exempted.
- EU Inventory** :  Not determined.

## 16 . Other information

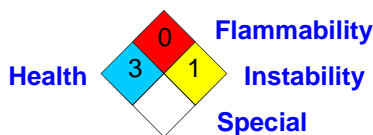
**Hazardous Material Information System (U.S.A.)** :

Health	*	3
Flammability		0
Physical hazards		1

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** :



- Date of printing** : 11/9/2012.  
**Date of issue** : 11/9/2012.  
**Date of previous issue** : 8/13/2012.  
**Version** : 1.04

Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

## 1 . Product and company identification

<b>Trade name</b>	: E-6000 White
<b>Supplier</b>	: Eclectic Products Inc. 1075 Arrowsmith Eugene, OR 97402 541-484-9621
<b>Material uses</b>	: Consumer products: Adhesive.
<b>Manufacturer</b>	: Eclectic Products Inc. 1075 Arrowsmith Eugene, OR 97402 541-484-9621
<b>Code</b>	: 1000134
<b>Validation date</b>	: <b>8/13/2012.</b>
<b>Print date</b>	: 8/13/2012.
<b>Responsible name</b>	: <b>Regulatory Compliance</b>
<b><u>In case of emergency</u></b>	: Eclectic Products Inc. 1075 Arrowsmith Eugene, OR 97402 541-484-9621

## 2 . Hazards identification

<b>Physical state</b>	: Liquid.
<b>Emergency overview</b>	: WARNING !  CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  Irritating to eyes, respiratory system and skin. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation.
<b><u>Potential acute health effects</u></b>	
<b>Inhalation</b>	: Irritating to respiratory system.
<b>Ingestion</b>	: No known significant effects or critical hazards.
<b>Skin</b>	: Irritating to skin.
<b>Eyes</b>	: Irritating to eyes.
<b><u>Potential chronic health effects</u></b>	
<b>Chronic effects</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.
<b>Target organs</b>	: Contains material which may cause damage to the following organs: kidneys, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).
<b><u>Over-exposure signs/symptoms</u></b>	
<b>Inhalation</b>	: Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Ingestion</b>	: No specific data.

## 2 . Hazards identification

**Skin** : Adverse symptoms may include the following:  
irritation  
redness

**Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Medical conditions aggravated by over-exposure** : None known.

See toxicological information (section 11)

## 3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Tetrachloroethylene	127-18-4	60-100
Titanium Dioxide	13463-67-7	<1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## 4 . First aid measures

**Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation** : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5 . Fire-fighting measures

**Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

### Extinguishing media

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

## 5 . Fire-fighting measures

- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon oxides  
halogenated compounds  
carbonyl halides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8 . Exposure controls/personal protection

### Product name

Tetrachloroethylene

### Exposure limits

**ACGIH TLV (United States, 1/2009). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. Substances for which there is a Biological Exposure Index or Indices Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.**  
STEL: 685 mg/m<sup>3</sup> 15 minute(s).  
STEL: 100 ppm 15 minute(s).  
TWA: 170 mg/m<sup>3</sup> 8 hour(s).

## 8 . Exposure controls/personal protection

TWA: 25 ppm 8 hour(s).

**OSHA PEL 1989 (United States, 3/1989). Notes: See Table Z-2.**

TWA: 170 mg/m<sup>3</sup> 8 hour(s).

TWA: 25 ppm 8 hour(s).

**OSHA PEL Z2 (United States, 11/2006).**

AMP: 300 ppm 5 minute(s).

CEIL: 200 ppm

TWA: 100 ppm 8 hour(s).

Titanium Dioxide

**ACGIH TLV (United States, 1/2009). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A - Carcinogens.**

TWA: 10 mg/m<sup>3</sup> 8 hour(s).

**OSHA PEL (United States, 11/2006).**

TWA: 15 mg/m<sup>3</sup> 8 hour(s). Form: Total dust

**OSHA PEL 1989 (United States, 3/1989).**

TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Total dust

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : losed cup:None. [Setaflash. ASTM D3828]
- Color** : White.
- Odor** : Not available.
- Boiling/condensation point** : >100°C (>212°F)

## 9 . Physical and chemical properties

<b>Specific gravity</b>	: 0.35 to 1.37
<b>Vapor pressure</b>	: 1.7 kPa (13 mm Hg)
<b>Estimated Vapor Density</b>	: >1 [Air = 1]
<b>VOC %</b>	: 0.1 - 0.12
<b>Evaporation rate</b>	: <1 (Water = 1)
<b>Solubility</b>	: Very slightly soluble in the following materials: water.

## 10 . Stability and reactivity

<b>Stability</b>	: The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Materials to avoid</b>	: No specific data.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Hazardous polymerization</b>	: Will not occur.
<b>Conditions of reactivity</b>	: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

## 11 . Toxicological information

### Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>	<b>Species</b>	<b>Dose</b>	<b>Exposure</b>
Tetrachloroethylene	LD Dermal	Rabbit	>3228 mg/kg	-
	LD50	Rat	4678 mg/kg	-
	Intraperitoneal			
	LD50 Oral	Rat	2629 mg/kg	-
	LD50 Unreported	Rat	4000 mg/kg	-
	LDLo	Rat	450 mg/kg	-
Titanium Dioxide	Intratracheal			
	TDLo Oral	Rat	50 mg/kg	-
	LD Intratracheal	Rat	>100 ug/kg	-
	TDLo	Rat	5 mg/kg	-
	Intratracheal			
	TDLo	Rat	1.6 mg/kg	-
	Intratracheal			
TDLo	Rat	1.25 mg/kg	-	
Intratracheal				
TDLo Oral	Rat	60 g/kg	-	

### Carcinogenicity

<b>Conclusion/Summary</b>	: Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.
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### Classification

<b>Product/ingredient name</b>	<b>ACGIH</b>	<b>IARC</b>	<b>EPA</b>	<b>NIOSH</b>	<b>NTP</b>	<b>OSHA</b>
Tetrachloroethylene	A3	2A	-	+	Possible	-
Titanium Dioxide	-	2B	-	-	-	-

<b>IDLH</b>	: Not available.
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<b>Synergistic products</b>	: Not available.
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## 12 . Ecological information

<b>Environmental effects</b>	: No known significant effects or critical hazards.
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### Aquatic ecotoxicity

<b>Product/ingredient name</b>	<b>Test</b>	<b>Result</b>	<b>Species</b>	<b>Exposure</b>
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## 12 . Ecological information

Tetrachloroethylene	-	Acute EC50 3 to 6 mg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute EC50 8500 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute EC50 7500 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute EC50 5380 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute EC50 4680 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 3 to 6 mg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 5840 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 5780 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 9100 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 4990 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 4820 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 4.99 mg/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 4000 ug/L Fresh water	Fish - Jordanella floridae	96 hours
	-	Acute LC50 18000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 18000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Chronic NOEC 10000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Titanium Dioxide	-	Acute EC50 >1000000 ug/L Fresh water	Daphnia - Daphnia magna
-		Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna	48 hours
-		Acute LC50 >1000000 ug/L Marine water	Fish - Fundulus heteroclitus	96 hours
-		Chronic NOEC 500 ppm Fresh water	Daphnia - Daphnia magna	48 hours
-		Chronic NOEC 1 ppm Fresh water	Daphnia - Daphnia magna	48 hours

**Conclusion/Summary** : Not available.

**Biodegradability**

**Conclusion/Summary** : Not available.







## 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	1897	Tetrachloroethylene mixture. Marine pollutant (Tetrachloroethylene)	6.1	III		<p><b>Marine pollutant</b> Marine pollutant (P)</p> <p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger aircraft</b> Quantity limitation: 60 L</p> <p><b>Cargo aircraft</b> Quantity limitation: 220 L</p> <p><b>Remarks</b> &lt; 1 gal Consumer commodity ORM-D</p>
<b>TDG Classification</b>	1897	Tetrachloroethylene mixture. Marine pollutant	6.1	III		<p><b>Marine pollutant</b> Marine pollutant (P)</p> <p><b>Explosive Limit and Limited Quantity Index</b> 5</p> <p><b>Passenger Carrying Road or Rail Index</b> 60</p>
<b>IMDG Class</b>	1897	Tetrachloroethylene mixture. Marine pollutant (Tetrachloroethylene)	6.1	III		<p><b>Emergency schedules (EmS)</b> F-A, S-A</p> <p><b>Marine pollutant</b> Marine pollutant (P)</p>
<b>IATA-DGR Class</b>	1897	Tetrachloroethylene mixture	6.1	III		<p><b>Passenger and Cargo Aircraft</b> Quantity limitation: 60 L</p> <p><b>Cargo Aircraft Only</b> Quantity limitation: 220 L</p> <p><b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 2 L</p>



## 14 . Transport information

PG\* : Packing group

## 15 . Regulatory information

**U.S. Federal regulations** : **TSCA 8(b) inventory**: All components are listed or exempted.  
SARA 311/312 - Acute, Chronic

### SARA 313

<u>Form R - Reporting requirements</u>	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
	Tetrachloroethylene	127-18-4	60-100

This product contains toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and subpart C-Supplier Notification Requirement of 40 CFR Part 372.

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>
Tetrachloroethylene	Yes.	No.

### Canada

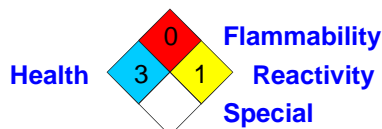
**WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class D-2A: Material causing other toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

**Canada inventory** : **Canada inventory**: All components are listed or exempted.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

### Mexico

**Classification** :



### EU regulations

**Hazard symbol or symbols** :



### **Risk phrases**

: R40- Limited evidence of a carcinogenic effect.  
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### **Safety phrases**

: S2- Keep out of the reach of children.  
S29- Do not empty into drains.  
S36/37- Wear suitable protective clothing and gloves.  
S46- If swallowed, seek medical advice immediately and show this container or label.  
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

### International regulations

#### **International lists**

: **Australia inventory (AICS)**: Not determined.  
**China inventory (IECSC)**: All components are listed or exempted.  
**Korea inventory (KECI)**: All components are listed or exempted.  
**Philippines inventory (PICCS)**: All components are listed or exempted.  
**Japan inventory (ENCS)**: Not determined.

## 15 . Regulatory information

EU Inventory : Europe inventory: Not determined.

## 16 . Other information

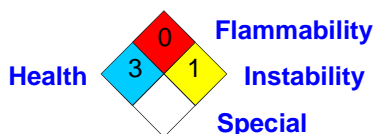
Hazardous Material Information System (U.S.A.) :

Health	*	3
Flammability		0
Physical hazards		1

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



Date of printing : 8/13/2012.

Date of issue : 8/13/2012.

Date of previous issue : 10/18/2011.

Version : 1.01

Indicates information that has changed from previously issued version.

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.