

# Material Safety Data Sheet

## 55000 Adhesive

### 1. Product and company identification

<b>Product name</b>	: 55000 Adhesive
<b>Synonym</b>	: NK
<b>Material uses</b>	: Rubber/ Solvent Solution.
<b>Supplier/Manufacturer</b>	: Fenner Dunlop 146 South Westwood P. O. Box 441 Toledo, OH 43697 Tel : (419) 534 5300 ext. 324 Fax : (419) 531-6284 Email : Dan.hoca@fennerdunlop.com
<b>Code</b>	: 55000
<b>MSDS authored by</b>	: KMK Regulatory Services inc.
<b>In case of emergency</b>	: CHEMTREC, U.S. : 1-800-424-9300    International: +1-703-527-3887
<b>Product type</b>	: Liquid.

### 2. Hazards identification

#### Emergency overview

<b>Color</b>	: Black.
<b>Physical state</b>	: Liquid.
<b>Odor</b>	: Solvent. [Slight]
<b>Signal word</b>	: WARNING!
<b>Hazard statements</b>	: FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECTS.
<b>Precautions</b>	: Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Avoid exposure during pregnancy. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Potential acute health effects</b>	
<b>Inhalation</b>	: Harmful by inhalation. Irritating to respiratory system. May cause sensitization by inhalation.
<b>Ingestion</b>	: Toxic if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
<b>Skin</b>	: Irritating to skin. May cause sensitization by skin contact. May be harmful if absorbed through skin.
<b>Eyes</b>	: Irritating to eyes.
<b>Potential chronic health effects</b>	
<b>Chronic effects</b>	: Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
<b>Carcinogenicity</b>	: Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

## 2. Hazards identification

- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Contains material which can cause birth defects.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, mucous membranes, spleen, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, eyes, central nervous system (CNS).
- Over-exposure signs/symptoms**
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting
- 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** : Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

## 3. Composition/information on ingredients

### United States

Name	CAS number	%
Toluene	108-88-3	30 - 60
Methyl ethyl ketone	78-93-3	10 - 30
Solvent naphtha (petroleum), light arom.	64742-95-6	5 - 10
1,2,4-Trimethylbenzene	95-63-6	5 - 10
Resorcinol	108-46-3	1 - 5
Methenamine	100-97-0	1 - 5
Trilead dioxide phosphonate	12141-20-7	1 - 5
Selenium	7782-49-2	1 - 5
Carbon black	1333-86-4	1 - 5
Mesitylene	108-67-8	1 - 5
Naphtha (petroleum), hydrotreated heavy	64742-48-9	1 - 5
Epichlorhydrin	106-89-8	0.1 - 1

### Canada

Name	CAS number	%
Toluene	108-88-3	30 - 60
Methyl ethyl ketone	78-93-3	10 - 30
Solvent naphtha (petroleum), light arom.	64742-95-6	5 - 10
1,2,4-Trimethylbenzene	95-63-6	5 - 10
Resorcinol	108-46-3	1 - 5
Methenamine	100-97-0	1 - 5
Trilead dioxide phosphonate	12141-20-7	1 - 5
Selenium	7782-49-2	1 - 5
Carbon black	1333-86-4	1 - 5
Mesitylene	108-67-8	1 - 5
Naphtha (petroleum), hydrotreated heavy	64742-48-9	1 - 5
Epichlorhydrin	106-89-8	0.1 - 1

### 3. Composition/information on ingredients

Mexico Name	CAS number	UN number	%	IDLH	H	Classification		
						F	R	Special
Toluene	108-88-3	UN1294	30 - 60	500 ppm	2	3	1	
Methyl ethyl ketone	78-93-3	UN1193	10 - 30	3000 ppm	2	3	0	
Solvent naphtha (petroleum), light arom.	64742-95-6	UN1268	5 - 10	-	1	1	0	
1,2,4-Trimethylbenzene	95-63-6	UN1993	5 - 10	-	2	2	0	
Resorcinol	108-46-3	UN2876	1 - 5	-	2	1	0	
Methenamine	100-97-0	UN1328	1 - 5	-	2	3	0	
Carbon black	1333-86-4	Not regulated.	1 - 5	1750 mg/m <sup>3</sup>	2	0	0	
Trilead dioxide phosphonate	12141-20-7	Not regulated.	1 - 5	100 mg/m <sup>3</sup>	0	0	0	
Selenium	7782-49-2	Not regulated.	1 - 5	1 mg/m <sup>3</sup>	0	0	0	
Mesitylene	108-67-8	UN2325	1 - 5	-	0	2	0	
Naphtha (petroleum), hydrotreated heavy	64742-48-9	UN1268	1 - 5	-	0	1	0	

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 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention.
- 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. Call medical doctor or poison control center 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. Call medical doctor or poison control center 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### 5. Fire-fighting measures

- Flammability of the product** : Flammable liquid.
- Extinguishing media**
  - Suitable** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
  - Not suitable** : Do not use water jet.
- Special exposure hazards** : This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides
- 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** : Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe 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).

### Methods for cleaning up

**Spill** : Stop leak if without risk. 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). Use spark-proof tools and explosion-proof equipment. 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.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

### United States

Ingredient	Exposure limits
Toluene	<p><b>NIOSH REL (United States, 6/2008).</b>                      STEL: 560 mg/m<sup>3</sup> 15 minute(s).                      STEL: 150 ppm 15 minute(s).                      TWA: 375 mg/m<sup>3</sup> 10 hour(s).                      TWA: 100 ppm 10 hour(s).</p> <p><b>OSHA PEL Z2 (United States, 11/2006).</b>                      AMP: 500 ppm 10 minute(s).                      CEIL: 300 ppm                      TWA: 200 ppm 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2009).</b>                      TWA: 20 ppm 8 hour(s).</p>
Methyl ethyl ketone	<p><b>ACGIH TLV (United States, 1/2009).</b>                      STEL: 885 mg/m<sup>3</sup> 15 minute(s).                      STEL: 300 ppm 15 minute(s).                      TWA: 590 mg/m<sup>3</sup> 8 hour(s).</p>

## 8. Exposure controls/personal protection

Solvent naphtha (petroleum), light arom.	<p>TWA: 200 ppm 8 hour(s).  <b>NIOSH REL (United States, 6/2008).</b>                  STEL: 885 mg/m<sup>3</sup> 15 minute(s).                  STEL: 300 ppm 15 minute(s).                  TWA: 590 mg/m<sup>3</sup> 10 hour(s).                  TWA: 200 ppm 10 hour(s).</p>
1,2,4-Trimethylbenzene	<p><b>OSHA PEL (United States, 11/2006).</b>                  TWA: 590 mg/m<sup>3</sup> 8 hour(s).                  TWA: 200 ppm 8 hour(s).</p> <p><b>Manufacturer (United States).</b>                  TWA: 40 ppm 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2009).</b>                  TWA: 123 mg/m<sup>3</sup> 8 hour(s).                  TWA: 25 ppm 8 hour(s).</p>
Resorcinol	<p><b>NIOSH REL (United States, 6/2008).</b>                  TWA: 125 mg/m<sup>3</sup> 10 hour(s).                  TWA: 25 ppm 10 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                  TWA: 25 ppm 8 hour(s).                  TWA: 125 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2009).</b>                  STEL: 90 mg/m<sup>3</sup> 15 minute(s).                  STEL: 20 ppm 15 minute(s).                  TWA: 45 mg/m<sup>3</sup> 8 hour(s).                  TWA: 10 ppm 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2008).</b>                  STEL: 90 mg/m<sup>3</sup> 15 minute(s).                  STEL: 20 ppm 15 minute(s).                  TWA: 45 mg/m<sup>3</sup> 10 hour(s).                  TWA: 10 ppm 10 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                  STEL: 90 mg/m<sup>3</sup> 15 minute(s).                  STEL: 20 ppm 15 minute(s).                  TWA: 45 mg/m<sup>3</sup> 8 hour(s).                  TWA: 10 ppm 8 hour(s).</p>
Trilead dioxide phosphonate	<p><b>ACGIH TLV (United States, 1/2009).</b>                  TWA: 0.05 mg/m<sup>3</sup>, (Pb) 8 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                  TWA: 50 ug/m<sup>3</sup>, (Pb) 8 hour(s).</p>
Selenium	<p><b>ACGIH TLV (United States, 1/2009).</b>                  TWA: 0.2 mg/m<sup>3</sup>, (Se) 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2008).</b>                  TWA: 0.2 mg/m<sup>3</sup>, (Se) 10 hour(s).</p>
Carbon black	<p><b>ACGIH TLV (United States, 1/2009).</b>                  TWA: 3.5 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2008).</b>                  TWA: 3.5 mg/m<sup>3</sup> 10 hour(s).                  TWA: 0.1 mg of PAHs/cm<sup>3</sup> 10 hour(s).</p> <p><b>OSHA PEL (United States, 11/2006).</b>                  TWA: 3.5 mg/m<sup>3</sup> 8 hour(s).</p>
Mesitylene	<p><b>ACGIH TLV (United States, 1/2009).</b>                  TWA: 123 mg/m<sup>3</sup> 8 hour(s).                  TWA: 25 ppm 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2008).</b>                  TWA: 125 mg/m<sup>3</sup> 10 hour(s).                  TWA: 25 ppm 10 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                  TWA: 25 ppm 8 hour(s).                  TWA: 125 mg/m<sup>3</sup> 8 hour(s).</p>
Naphtha (petroleum), hydrotreated heavy	<p><b>ACGIH TLV (United States).</b>                  TWA: 300 ppm 8 hour(s).</p>
Epichlorhydrin	<p><b>ACGIH TLV (United States, 1/2009). Absorbed through skin.</b>                  TWA: 1.9 mg/m<sup>3</sup> 8 hour(s).                  TWA: 0.5 ppm 8 hour(s).</p> <p><b>OSHA PEL (United States, 11/2006). Absorbed through skin.</b>                  TWA: 19 mg/m<sup>3</sup> 8 hour(s).                  TWA: 5 ppm 8 hour(s).</p>

## 8. Exposure controls/personal protection

### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	
Toluene	US ACGIH 1/2009	20	-	-	-	-	-	-	-	-	[1]
	AB 6/2008	50	188	-	-	-	-	-	-	-	
	BC 6/2008	20	-	-	-	-	-	-	-	-	
	ON 6/2008	50	-	-	-	-	-	-	-	-	
	QC 6/2008	50	188	-	-	-	-	-	-	-	
Methyl ethyl ketone	US ACGIH 1/2009	200	590	-	300	885	-	-	-	-	[1]
	AB 6/2008	200	590	-	300	885	-	-	-	-	
	BC 6/2008	50	-	-	100	-	-	-	-	-	
	ON 6/2008	200	590	-	300	885	-	-	-	-	
	QC 6/2008	50	150	-	100	300	-	-	-	-	
1,2,4-Trimethylbenzene	US ACGIH 1/2009	25	123	-	-	-	-	-	-	-	[1]
	AB 6/2008	25	123	-	-	-	-	-	-	-	
	BC 6/2008	25	-	-	-	-	-	-	-	-	
	ON 6/2008	25	123	-	-	-	-	-	-	-	
	QC 6/2008	25	123	-	-	-	-	-	-	-	
Resorcinol	US ACGIH 1/2009	10	45	-	20	90	-	-	-	-	[1]
	AB 6/2008	10	45	-	20	90	-	-	-	-	
	BC 6/2008	10	-	-	20	-	-	-	-	-	
	ON 6/2008	10	45	-	20	90	-	-	-	-	
	QC 6/2008	10	45	-	20	90	-	-	-	-	
Methenamine	ON 6/2008	-	-	-	0.35	2	-	-	-	-	[1]
Trilead dioxide phosphonate, Pb	US ACGIH 1/2009	-	0.05	-	-	-	-	-	-	-	[1]
	AB 6/2008	-	0.05	-	-	-	-	-	-	-	
	BC 6/2008	-	0.05	-	-	-	-	-	-	-	
	ON 6/2008	-	0.05	-	-	-	-	-	-	-	
	QC 6/2008	-	0.05	-	-	-	-	-	-	-	
Selenium, Se	US ACGIH 1/2009	-	0.2	-	-	-	-	-	-	-	[1]
	AB 6/2008	-	0.2	-	-	-	-	-	-	-	
	BC 6/2008	-	0.1	-	-	-	-	-	-	-	
	ON 6/2008	-	0.2	-	-	-	-	-	-	-	
	QC 6/2008	-	0.2	-	-	-	-	-	-	-	
Carbon black	US ACGIH 1/2009	-	3.5	-	-	-	-	-	-	-	[1]
	AB 6/2008	-	3.5	-	-	-	-	-	-	-	
	BC 6/2008	-	3.5	-	-	-	-	-	-	-	
	ON 6/2008	-	3.5	-	-	-	-	-	-	-	
	QC 6/2008	-	3.5	-	-	-	-	-	-	-	
Mesitylene	US ACGIH 1/2009	25	123	-	-	-	-	-	-	-	[1]
	AB 6/2008	25	123	-	-	-	-	-	-	-	
	BC 6/2008	25	-	-	-	-	-	-	-	-	
	ON 6/2008	25	123	-	-	-	-	-	-	-	
	QC 6/2008	25	123	-	-	-	-	-	-	-	
Naphtha (petroleum), hydrotreated heavy	US ACGIH	300	-	-	-	-	-	-	-	-	[1]
Epichlorhydrin	US ACGIH 1/2009	0.5	1.9	-	-	-	-	-	-	-	[1]
	AB 6/2008	0.5	1.9	-	-	-	-	-	-	-	[1]
	BC 6/2008	0.1	-	-	-	-	-	-	-	-	[1]
	ON 6/2008	0.5	-	-	-	-	-	-	-	-	[1]
	QC 6/2008	2	7.6	-	-	-	-	-	-	-	[1]

[1]Absorbed through skin.

### Mexico

Ingredient	Exposure limits
Toluene	<b>NOM-010-STPS (Mexico, 9/2000). Absorbed through skin.</b> LMPE-PPT: 188 mg/m <sup>3</sup> 8 hour(s). LMPE-PPT: 50 ppm 8 hour(s).
Methyl ethyl ketone	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 885 mg/m <sup>3</sup> 15 minute(s). LMPE-CT: 300 ppm 15 minute(s). LMPE-PPT: 590 mg/m <sup>3</sup> 8 hour(s). LMPE-PPT: 200 ppm 8 hour(s).
1,2,4-Trimethylbenzene	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 170 mg/m <sup>3</sup> 15 minute(s). LMPE-CT: 35 ppm 15 minute(s). LMPE-PPT: 125 mg/m <sup>3</sup> 8 hour(s). LMPE-PPT: 25 ppm 8 hour(s).

## 8. Exposure controls/personal protection

Resorcinol	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 90 mg/m <sup>3</sup> 15 minute(s). LMPE-CT: 20 ppm 15 minute(s). LMPE-PPT: 45 mg/m <sup>3</sup> 8 hour(s). LMPE-PPT: 10 ppm 8 hour(s).
Trilead dioxide phosphonate	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-PPT: 0.15 mg/m <sup>3</sup> , (as Pb) 8 hour(s). Form: powder and smoke
Selenium	<b>ACGIH TLV (United States, 1/2009).</b> TWA: 0.2 mg/m <sup>3</sup> , (Se) 8 hour(s).
Carbon black	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 7 mg/m <sup>3</sup> 15 minute(s). Form: smoke LMPE-PPT: 3.5 mg/m <sup>3</sup> 8 hour(s). Form: smoke
Mesitylene	<b>NOM-010-STPS (Mexico, 9/2000).</b> LMPE-CT: 170 mg/m <sup>3</sup> 15 minute(s). LMPE-CT: 35 ppm 15 minute(s). LMPE-PPT: 125 mg/m <sup>3</sup> 8 hour(s). LMPE-PPT: 25 ppm 8 hour(s).
Naphtha (petroleum), hydrotreated heavy	<b>ACGIH TLV (United States).</b> TWA: 300 ppm 8 hour(s).

### Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : 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. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. 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.
- Respiratory** : 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. Recommended: Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.
- Hands** : Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.
- 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. Recommended: Lab coat.
- 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: -4°C (24.8°F) [Pensky-Martens.]
- Color** : Black.
- Odor** : Solvent. [Slight]
- Specific gravity** : 0.97 g/cm<sup>3</sup>
- Vapor density** : 2.5 [Air = 1]
- Volatility** : 73 to 78% (v/v)
- Evaporation rate** : 2.8 (butyl acetate = 1)
- Solubility** : Insoluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not swallow.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials and acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	49 g/m3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Methyl ethyl ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-
1,2,4-Trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m3	4 hours
	LD50 Oral	Rat	5 g/kg	-
Resorcinol	LD50 Dermal	Rabbit	3360 mg/kg	-
	LD50 Oral	Rat	301 mg/kg	-
Selenium	LD50 Oral	Rat	6700 mg/kg	-
Carbon black	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-
Mesitylene	LC50 Inhalation Vapor	Rat	24000 mg/m3	4 hours
	LD50 Oral	Rat	5000 mg/kg	-
Epichlorhydrin	LD50 Dermal	Rabbit	515 mg/kg	-
	LD50 Oral	Rat	90 mg/kg	-

### Chronic toxicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Toluene	A4	3	-	-	-	-
Resorcinol	A4	3	-	-	-	-
Trilead dioxide phosphonate	A3	-	-	-	Possible	-
Selenium	-	3	-	-	-	-
Carbon black	A4	2B	-	+	-	-
Epichlorhydrin	A3	2A	-	+	Possible	-

## 12. Ecological information

- Environmental effects** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 6000 ug/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 15.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 5500 ug/L Fresh water	Fish - Oncorhynchus kisutch - FRY - 1 g	96 hours
	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
Methyl ethyl ketone	Acute LC50 >520000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
	Acute LC50 >400 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
	Chronic NOEC <70000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours

## 12. Ecological information

1,2,4-Trimethylbenzene	Chronic NOEC 400 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
Resorcinol	Acute LC50 17000 ug/L Marine water Acute LC50 7720 to 8280 ug/L Fresh water Acute LC50 78000 to 106500 ug/L Marine water Acute LC50 >100000 ug/L Fresh water Acute LC50 40000 ug/L Fresh water	Crustaceans - Cancer magister - Zoea Fish - Pimephales promelas - 34 days Crustaceans - Palaemonetes pugio Daphnia - Daphnia pulicaria Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	48 hours 96 hours 48 hours 48 hours 96 hours
Methenamine	Acute EC50 36000000 to 43390000 ug/L Fresh water	Daphnia - Daphnia magna - 1 to 3 days	48 hours
Selenium	Acute LC50 >10000000 ug/L Marine water Acute LC50 430 to 570 ug/L Fresh water Acute LC50 1000 to 1200 ug/L Fresh water	Fish - Alburnus alburnus - 8 cm Daphnia - Daphnia magna - <=24 hours Fish - Pimephales promelas - FRY - 25 to 35 days - 17 mm - 0.03 g	96 hours 48 hours 96 hours
Mesitylene	Chronic NOEC 220 ug/L Fresh water Chronic NOEC 2 ppm Marine water	Daphnia - Daphnia magna - <=24 hours Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	48 hours 96 hours
Epichlorhydrin	Acute LC50 13000 ug/L Marine water Acute LC50 12520 to 15050 ug/L Fresh water	Crustaceans - Cancer magister - Zoea Fish - Carassius auratus - 1 to 1.5 years - 13 to 20 cm - 20 to 80 g	48 hours 96 hours
	Acute LC50 21000 to 22800 ug/L Fresh water Acute LC50 10600 to 12300 ug/L Fresh water	Daphnia - Daphnia magna - Neonate Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8 mg	48 hours 96 hours

**Other adverse effects** : No known significant effects or critical hazards.





## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.


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>	UN1133	ADHESIVES (Containing a flammable liquid)	3	II		-
<b>TDG Classification</b>	UN1133	ADHESIVES (Containing a flammable liquid)	3	II		-
<b>Mexico Classification</b>	UN1133	ADHESIVES (Containing a flammable liquid)	3	II		-
<b>IMDG Class</b>	UN1133	ADHESIVES (Containing a flammable liquid)	3	II		-

## 14 . Transport information

<b>IATA-DGR Class</b>	UN1133	ADHESIVES (Containing a flammable liquid)	3	II		-
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PG\* : Packing group

**AERG** : 128

Exemption to the above classification may apply.

## 15 . Regulatory information

### United States

#### **HCS Classification**

: Flammable liquid  
Toxic material  
Irritating material  
Sensitizing material  
Carcinogen  
Target organ effects

#### **U.S. Federal regulations**

: **United States inventory (TSCA 8b)**: All components are listed or exempted.  
**TSCA 8(d) H and S data reporting**: Trilead dioxide phosphonate: 2008  
**SARA 302/304/311/312 extremely hazardous substances**: No products were found.  
**SARA 302/304 emergency planning and notification**: No products were found.  
**SARA 302/304/311/312 hazardous chemicals**: Toluene; Methyl ethyl ketone; 1,2,4-Trimethylbenzene; Resorcinol; Selenium; Methenamine; Carbon black; Mesitylene  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**:  
Toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard;  
Methyl ethyl ketone: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard;  
1,2,4-Trimethylbenzene: Fire hazard, Delayed (chronic) health hazard;  
Resorcinol: Immediate (acute) health hazard, Delayed (chronic) health hazard;  
Selenium: Immediate (acute) health hazard, Delayed (chronic) health hazard;  
Methenamine: Fire hazard, Immediate (acute) health hazard;  
Carbon black: Immediate (acute) health hazard, Delayed (chronic) health hazard;  
Mesitylene: Fire hazard, Immediate (acute) health hazard  
**Clean Water Act (CWA) 307**: Toluene; Trilead dioxide phosphonate; Selenium  
**Clean Water Act (CWA) 311**: Toluene; Resorcinol  
**Clean Air Act (CAA) 112 accidental release prevention**: Epichlorhydrin  
**Clean Air Act (CAA) 112 regulated flammable substances**: No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances**: Epichlorhydrin

#### **Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**

: Listed

#### **Clean Air Act Section 602 Class I Substances**

: Not listed

#### **Clean Air Act Section 602 Class II Substances**

: Not listed

#### **DEA List I Chemicals (Precursor Chemicals)**

: Not listed

#### **DEA List II Chemicals (Essential Chemicals)**

: Listed

## 15 . Regulatory information

### SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	Toluene	108-88-3	30 - 60
	Methyl ethyl ketone	78-93-3	10 - 30
	1,2,4-Trimethylbenzene	95-63-6	5 - 10
	Trilead dioxide phosphonate	12141-20-7	1 - 5
	Selenium	7782-49-2	1 - 5
<b>Supplier notification</b>	Epichlorhydrin	106-89-8	0.1 - 1
	Toluene	108-88-3	30 - 60
	Methyl ethyl ketone	78-93-3	10 - 30
	1,2,4-Trimethylbenzene	95-63-6	5 - 10
	Trilead dioxide phosphonate	12141-20-7	1 - 5
	Selenium	7782-49-2	1 - 5
	Epichlorhydrin	106-89-8	0.1 - 1

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.

- State regulations**
- Connecticut Carcinogen Reporting:** None of the components are listed.
  - Connecticut Hazardous Material Survey:** None of the components are listed.
  - Florida substances:** None of the components are listed.
  - Illinois Chemical Safety Act:** None of the components are listed.
  - Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.
  - Louisiana Reporting:** None of the components are listed.
  - Louisiana Spill:** None of the components are listed.
  - Massachusetts Spill:** None of the components are listed.
  - Massachusetts Substances:** The following components are listed: Toluene; Methyl ethyl ketone; 1,2,4-Trimethylbenzene; Resorcinol; Selenium; Carbon black; Mesitylene
  - Michigan Critical Material:** None of the components are listed.
  - Minnesota Hazardous Substances:** None of the components are listed.
  - New Jersey Hazardous Substances:** The following components are listed: Toluene; Methyl ethyl ketone; 1,2,4-Trimethylbenzene; Resorcinol; Methenamine; Trilead dioxide phosphonate; Selenium; Carbon black; Mesitylene; Epichlorhydrin
  - New Jersey Spill:** None of the components are listed.
  - New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.
  - New York Acutely Hazardous Substances:** The following components are listed: Toluene; Methyl ethyl ketone; Resorcinol; Selenium; Epichlorhydrin
  - New York Toxic Chemical Release Reporting:** None of the components are listed.
  - Pennsylvania RTK Hazardous Substances:** The following components are listed: Toluene; Methyl ethyl ketone; 1,2,4-Trimethylbenzene; Resorcinol; Trilead dioxide phosphonate; Selenium; Carbon black; Mesitylene; Epichlorhydrin
  - Rhode Island Hazardous Substances:** None of the components are listed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Trilead dioxide phosphonate	Yes.	No.	No.	No.
Carbon black	Yes.	No.	No.	No.
Epichlorhydrin	Yes.	Yes.	Yes.	No.

## 15 . Regulatory information

### Canada

#### WHMIS (Canada)

- : Class B-2: Flammable liquid
- 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).

#### Canadian lists

- : **CEPA Toxic substances:** None of the components are listed.
- Canadian ARET:** None of the components are listed.
- Canadian NPRI:** The following components are listed: Toluene; Methyl ethyl ketone; Solvent naphtha (petroleum), light arom.; 1,2,4-Trimethylbenzene; Trilead dioxide phosphonate; Selenium; Mesitylene; Naphtha (petroleum), hydrotreated heavy
- Alberta Designated Substances:** None of the components are listed.
- Ontario Designated Substances:** None of the components are listed.
- Quebec Designated Substances:** None of the components are listed.

#### Canada inventory

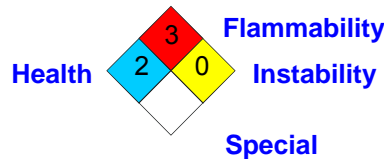
- : All components are listed or exempted.

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

### Mexico

#### Classification

:



### International regulations

#### International lists

- : **Australia inventory (AICS):** All components are listed or exempted.
- 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):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.

#### Chemical Weapons Convention List Schedule I Chemicals

- : Not listed

#### Chemical Weapons Convention List Schedule II Chemicals

- : Not listed

#### Chemical Weapons Convention List Schedule III Chemicals

- : Not listed

## 16 . Other information

### United States

#### Label requirements

- : FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECTS.

## 16 . Other information

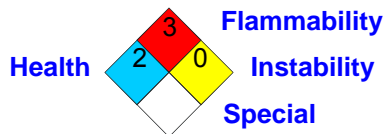
**Hazardous Material Information System (U.S.A.) :**

Health	*	2
Flammability		3
Physical hazards		0

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.

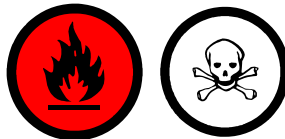
The customer is responsible for determining the PPE code for this material.

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



### Canada

**WHMIS (Canada) :**



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### 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.



Dr. Luc Séguin, PhD chemist, 25 years as a professional in regulatory compliance

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