

# Material Safety Data Sheet

## Chromabase

### 1. Product and company identification

<b>Common name</b>	: Chromabase
<b>Material uses</b>	: Not available.
<b>Supplier/Manufacturer</b>	: San Leandro Color 555 Est 14 th Street San Leandro, CA USA, 94577
<b>In case of emergency</b>	: CHEMTREC, U.S. : (800) 424-9300 International: (703) 527-3887
<b>MSDS authored by:</b>	: Kemika XXI Inc. + 1-450-435-7475 11/15/2006

### 2. Hazards identification

<b>Physical state</b>	: Liquid. (Aerosol.)
<b>Odor</b>	: Solvent. (Strong.)
<b>Hazard status</b>	: This material is classified hazardous under OSHA regulations in the United States, the WHMIS Controlled Product Regulation in Canada and the NOM-018-STPS-2000 in Mexico.
<b>Emergency overview</b>	: DANGER ! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FIRE. CONTENTS UNDER PRESSURE. MAY BE FATAL IF INHALED. CANCER HAZARD. CONTAINS MATERIAL WHICH CAN CAUSE CANCER. BIRTH DEFECT HAZARD. CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECT. HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. MAY CAUSE SEVERE ALLERGIC RESPIRATORY REACTION. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, REPRODUCTIVE SYSTEM, LIVER, MUCOUS MEMBRANES, LYMPHATIC SYSTEM, PERIPHERAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA, NOSE, SINUSES, THROAT. Do not ingest. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Risk of cancer depends on duration and level of exposure. Avoid exposure during pregnancy.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Potential acute health effects</b>	
<b>Eyes</b>	: Irritating to eyes.
<b>Skin</b>	: Harmful if absorbed through the skin. Irritating to skin. May cause sensitization by skin contact.
<b>Inhalation</b>	: May be fatal if inhaled. Irritating to respiratory system. May cause sensitization by inhalation.
<b>Ingestion</b>	: Harmful if swallowed.

- Potential chronic health effects** : Carcinogenic effects Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Toluene]. Classified 3 (Not classifiable for humans.) by IARC [Silica, Amorphous]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Xylene]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Toluene]. Classified 2B (Possible for humans.) by IARC [Titanium dioxide]. Classified None. by NIOSH [Titanium dioxide]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Titanium dioxide]. Classified None. by OSHA [Isopropyl alcohol]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Isopropyl alcohol]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Iron (III) oxide]. Classified A3 (Proven for animals.) by ACGIH [2-Butoxyethyl acetate]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Ethyl acetate]. Classified + (Proven.) by NIOSH [Carbon Black]. Classified 2B (Possible for humans.) by IARC [Carbon Black]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Carbon Black]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [n-Butyl acetate]. Classified + (Proven.) by NIOSH [Lead chromate]. Classified A3 (Proven for animals.) by ACGIH [Lead chromate]. Classified 2 (Reasonably anticipated to be human carcinogens.) by NTP [Lead chromate]. Classified 3 (Not classifiable for humans.) by IARC [Lead chromate]. Classified 3 (Not classifiable for humans.) by IARC [Polymethylmethacrylate]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Acetone].
- Mutagenic effects Classified None. for humans [Isopropyl alcohol].
- Teratogenic effects: Not available.
- Medical conditions aggravated by over-exposure** : Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged exposure to the substance can produce lung damage. Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to the substance can produce target organ damage.

See toxicological information (section 11)

### 3 . Composition/information on ingredients

#### United States

Name	CAS number	%
Difluoroethane	75-37-6	30 - 60
Toluene	108-88-3	30 - 60
2-Ethoxyethyl acetate	111-15-9	1 - 5
Difluoroethane	75-37-6	1 - 5
Heptan-2-one	110-43-0	1 - 5
Di-isobutyl ketone	108-83-8	1 - 5
Hexamethylene-di-isocyanate	822-06-0	1 - 5
Silica, Amorphous	7631-86-9	1 - 5
Tetraethyl silicate	78-10-4	1 - 5
Xylene	1330-20-7	1 - 5
Light aliphatic solvent naphtha	64742-89-8	1 - 5
Toluene	108-88-3	1 - 5
Titanium dioxide	13463-67-7	1 - 5
Pentyl acetate	628-63-7	1 - 5
Nickel titanite yellow pigment	8007-18-9	1 - 5
Methyl ethyl ketone	78-93-3	1 - 5
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	1 - 5
Isopropyl alcohol	67-63-0	1 - 5
Iron (III) oxide	1309-37-1	1 - 5
2-Butoxyethyl acetate	112-07-2	1 - 5
Ethyl acetate	141-78-6	1 - 5
Carbon Black	1333-86-4	1 - 5
n-Butyl acetate	123-86-4	1 - 5
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	1 - 5
Solvent naphtha (petroleum), light aromatic	64742-95-6	1 - 5
Aluminum	7429-90-5	1 - 5

Lead chromate	18454-12-1	1 - 5
Ferric ferrocyanide pigment	14038-43-8	1 - 5
Acetone	67-64-1	1 - 5

## Canada

Name	CAS number	%
Difluoroethane	75-37-6	30 - 60
Toluene	108-88-3	30 - 60
2-Ethoxyethyl acetate	111-15-9	1 - 5
Difluoroethane	75-37-6	1 - 5
Heptan-2-one	110-43-0	1 - 5
Di-isobutyl ketone	108-83-8	1 - 5
Bis(1,2,2,6,6-pentamethyl-4-piperidiny) sebacate	41556-26-7	1 - 5
Hexamethylene-di-isocyanate	822-06-0	1 - 5
Silica, Amorphous	7631-86-9	1 - 5
Tetraethyl silicate	78-10-4	1 - 5
Xylene	1330-20-7	1 - 5
Light aliphatic solvent naphtha	64742-89-8	1 - 5
Toluene	108-88-3	1 - 5
Titanium dioxide	13463-67-7	1 - 5
Pentyl acetate	628-63-7	1 - 5
Copper Phthalocyanine	147-14-8	1 - 5
Nickel titan yellow pigment	8007-18-9	1 - 5
Methyl ethyl ketone	78-93-3	1 - 5
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	1 - 5
Isopropyl alcohol	67-63-0	1 - 5
Iron (III) oxide	1309-37-1	1 - 5
2-Butoxyethyl acetate	112-07-2	1 - 5
Ethyl acetate	141-78-6	1 - 5
Carbon Black	1333-86-4	1 - 5
n-Butyl acetate	123-86-4	1 - 5
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	1 - 5
Solvent naphtha (petroleum), light aromatic	64742-95-6	1 - 5
Aluminum	7429-90-5	1 - 5
Lead chromate	18454-12-1	1 - 5
Ferric ferrocyanide pigment	14038-43-8	1 - 5
Acetone	67-64-1	1 - 5

## Mexico

Name	UN number	IDLH	Classification				CAS number	%
			H	F	R	Special		
Difluoroethane	UN1030	-	1	4	0		75-37-6	30 - 60
Toluene	UN1294	500 ppm	2	3	0		108-88-3	30 - 60
2-Ethoxyethyl acetate	UN1172	500 ppm	2	2	0		111-15-9	1 - 5
Difluoroethane	UN1030	-	1	4	0		75-37-6	1 - 5
Heptan-2-one	UN1110	800 ppm	1	2	0		110-43-0	1 - 5
Di-isobutyl ketone	UN1157	500 ppm	1	2	0		108-83-8	1 - 5
Hexamethylene-di-isocyanate	UN2281	-	4	1	0		822-06-0	1 - 5
Tetraethyl silicate	UN1292	700 ppm	2	3	1		78-10-4	1 - 5
Xylene	UN1307	900 ppm	2	3	0		1330-20-7	1 - 5
Light aliphatic solvent naphtha	UN1268	-	1	4	0		64742-89-8	1 - 5
Toluene	UN1294	500 ppm	2	3	0		108-88-3	1 - 5
Pentyl acetate	UN1104	1000 ppm	1	3	0		628-63-7	1 - 5
Nickel titan yellow pigment	Not regulated.	-	1	0	0		8007-18-9	1 - 5
Methyl ethyl ketone	UN1193	3000 ppm	1	3	0		78-93-3	1 - 5
Solvent naphtha (petroleum), medium aliphatic	UN1223	-	1	1	0		64742-88-7	1 - 5
Isopropyl alcohol	UN1219	2000 ppm	1	2	0		67-63-0	1 - 5

Iron (III) oxide	Not regulated.	2500 mg/m <sup>3</sup>	1	0	0	1309-37-1	1 - 5
2-Butoxyethyl acetate	Not regulated.	-	1	2	0	112-07-2	1 - 5
Ethyl acetate	UN1173	2000 ppm	1	3	0	141-78-6	1 - 5
Carbon Black	Not regulated.	1750 mg/m <sup>3</sup>	2	0	0	1333-86-4	1 - 5
n-Butyl acetate	UN1123	1700 ppm	1	3	0	123-86-4	1 - 5
Solvent naphtha (petroleum), heavy aromatic	Not regulated.	-	1	1	0	64742-94-5	1 - 5
Acetone	UN1090	2500 ppm	2	3	0	67-64-1	1 - 5
Silica, Amorphous	Not regulated.	3000 mg/m <sup>3</sup>	0	0	0	7631-86-9	1 - 5
Titanium dioxide	Not regulated.	5000 mg/m <sup>3</sup>	0	0	0	13463-67-7	1 - 5
Aluminum	UN1309	-	0	2	0	7429-90-5	1 - 5
Lead chromate	Not regulated.	15 mg/m <sup>3</sup>	0	0	0	18454-12-1	1 - 5
Ferric ferrocyanide pigment	Not regulated.	-	0	0	0	14038-43-8	1 - 5

## 4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention immediately.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to physician** : No specific antidote. Medical staff must contact Poison Control Center.

## 5 . Fire-fighting measures

- Flammability of the product** : Flammable.
- Products of combustion** : These products are carbon oxides, nitrogen oxides, halogenated compounds, hydrogen chloride, hydrogen fluoride. Some metallic oxides.
- Extinguishing media**
- Suitable** : Use dry chemical, carbon dioxide, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- 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** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.

**Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

## 7 . Handling and storage

**Handling** : Do not ingest. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Do not breathe vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.

**Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## 8 . Exposure controls/personal protection

### United States

#### Product name

Difluoroethane

Toluene

2-Ethoxyethyl acetate

Difluoroethane

Heptan-2-one

Di-isobutyl ketone

#### Exposure limits

##### AIHA WEEL (United States, 1/2004).

TWA: 1000 ppm 8 hour(s). Form: All forms

##### ACGIH TLV (United States, 1/2005). Skin

TWA: 188 mg/m<sup>3</sup> 8 hour(s). Form: All forms.

TWA: 50 ppm 8 hour(s). Form: All forms.

##### NIOSH REL (United States, 12/2001).

STEL: 560 mg/m<sup>3</sup> 15 minute(s). Form: All forms.

STEL: 150 ppm 15 minute(s). Form: All forms.

TWA: 375 mg/m<sup>3</sup> 10 hour(s). Form: All forms.

TWA: 100 ppm 10 hour(s). Form: All forms.

##### OSHA PEL Z2 (United States, 8/1997).

AMP: 500 ppm 10 minute(s). Form: All forms.

TWA: 200 ppm 8 hour(s). Form: All forms.

##### ACGIH TLV (United States, 1/2005). Skin

TWA: 27 mg/m<sup>3</sup> 8 hour(s). Form: All forms.

TWA: 5 ppm 8 hour(s). Form: All forms.

##### NIOSH REL (United States, 12/2001). Skin

TWA: 2.7 mg/m<sup>3</sup> 10 hour(s). Form: All forms.

TWA: 0.5 ppm 10 hour(s). Form: All forms.

##### OSHA PEL (United States, 8/1997). Skin

TWA: 540 mg/m<sup>3</sup> 8 hour(s). Form: All forms.

TWA: 100 ppm 8 hour(s). Form: All forms.

##### AIHA WEEL (United States, 1/2004).

TWA: 1000 ppm 8 hour(s). Form: All forms

##### NIOSH REL (United States, 12/2001).

TWA: 465 mg/m<sup>3</sup> 10 hour(s). Form: All forms.

TWA: 100 ppm 10 hour(s). Form: All forms.

##### OSHA PEL (United States, 8/1997).

TWA: 465 mg/m<sup>3</sup> 8 hour(s). Form: All forms.

TWA: 100 ppm 8 hour(s). Form: All forms.

##### ACGIH TLV (United States, 1/2005).

TWA: 233 mg/m<sup>3</sup> 8 hour(s). Form: All forms.

TWA: 50 ppm 8 hour(s). Form: All forms.

##### ACGIH TLV (United States, 1/2005).

TWA: 145 mg/m<sup>3</sup> 8 hour(s). Form: All forms.

TWA: 25 ppm 8 hour(s). Form: All forms.

##### NIOSH REL (United States, 12/2001).

Hexamethylene-di-isocyanate	<p>TWA: 150 mg/m<sup>3</sup> 10 hour(s). Form: All forms.  TWA: 25 ppm 10 hour(s). Form: All forms.  <b>OSHA PEL (United States, 8/1997).</b>  TWA: 290 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 50 ppm 8 hour(s). Form: All forms.  <b>NIOSH REL (United States, 12/2001).</b>  CEIL: 0.02 ppm 10 minute(s). Form: All forms.  CEIL: 140 µg/m<sup>3</sup> 10 minute(s). Form: All forms.  TWA: 0.005 ppm 10 hour(s). Form: All forms.  TWA: 35 µg/m<sup>3</sup> 10 hour(s). Form: All forms.  <b>ACGIH TLV (United States, 1/2005).</b>  TWA: 0.03 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 0.01 ppm 8 hour(s). Form: All forms.</p>
Silica, Amorphous	<p><b>NIOSH REL (United States, 12/2001).</b>  TWA: 6 mg/m<sup>3</sup> 10 hour(s). Form: All forms.</p>
Tetraethyl silicate	<p><b>ACGIH TLV (United States, 1/2005).</b>  TWA: 85 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 10 ppm 8 hour(s). Form: All forms.  <b>NIOSH REL (United States, 12/2001).</b>  TWA: 85 mg/m<sup>3</sup> 10 hour(s). Form: All forms  TWA: 10 ppm 10 hour(s). Form: All forms  <b>OSHA PEL (United States, 8/1997).</b>  TWA: 850 mg/m<sup>3</sup> 8 hour(s). Form: All forms  TWA: 100 ppm 8 hour(s). Form: All forms</p>
Xylene	<p><b>ACGIH TLV (United States, 1/2005).</b>  STEL: 651 mg/m<sup>3</sup> 15 minute(s). Form: All forms.  STEL: 150 ppm 15 minute(s). Form: All forms.  TWA: 434 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 100 ppm 8 hour(s). Form: All forms.  <b>OSHA PEL (United States, 8/1997).</b>  TWA: 435 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 100 ppm 8 hour(s). Form: All forms.</p>
Toluene	<p><b>ACGIH TLV (United States, 1/2005). Skin</b>  TWA: 188 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 50 ppm 8 hour(s). Form: All forms.  <b>NIOSH REL (United States, 12/2001).</b>  STEL: 560 mg/m<sup>3</sup> 15 minute(s). Form: All forms.  STEL: 150 ppm 15 minute(s). Form: All forms.  TWA: 375 mg/m<sup>3</sup> 10 hour(s). Form: All forms.  TWA: 100 ppm 10 hour(s). Form: All forms.  <b>OSHA PEL Z2 (United States, 8/1997).</b>  AMP: 500 ppm 10 minute(s). Form: All forms.  TWA: 200 ppm 8 hour(s). Form: All forms.</p>
Titanium dioxide	<p><b>ACGIH TLV (United States, 1/2005).</b>  TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  <b>OSHA PEL (United States, 8/1997).</b></p>
Pentyl acetate	<p>TWA: 15 mg/m<sup>3</sup> 8 hour(s). Form: Total dust  <b>ACGIH TLV (United States, 1/2005).</b>  STEL: 100 ppm 8 hour(s). Form: All forms.  TWA: 50 ppm 8 hour(s). Form: All forms.  <b>NIOSH REL (United States, 12/2001).</b>  TWA: 525 mg/m<sup>3</sup> 10 hour(s). Form: All forms  TWA: 100 ppm 10 hour(s). Form: All forms  <b>OSHA PEL (United States, 8/1997).</b>  TWA: 525 mg/m<sup>3</sup> 8 hour(s). Form: All forms  TWA: 100 ppm 8 hour(s). Form: All forms</p>
Methyl ethyl ketone	<p><b>ACGIH TLV (United States, 1/2005).</b>  STEL: 885 mg/m<sup>3</sup> 15 minute(s). Form: All forms.  STEL: 300 ppm 15 minute(s). Form: All forms.  TWA: 590 mg/m<sup>3</sup> 8 hour(s). Form: All forms.  TWA: 200 ppm 8 hour(s). Form: All forms.</p>

Solvent naphtha (petroleum), medium aliphatic	<p><b>NIOSH REL (United States, 12/2001).</b>            STEL: 885 mg/m<sup>3</sup> 15 minute(s). Form: All forms.            STEL: 300 ppm 15 minute(s). Form: All forms.            TWA: 590 mg/m<sup>3</sup> 10 hour(s). Form: All forms.            TWA: 200 ppm 10 hour(s). Form: All forms.</p>
Isopropyl alcohol	<p><b>OSHA PEL (United States, 8/1997).</b>            TWA: 590 mg/m<sup>3</sup> 8 hour(s). Form: All forms.            TWA: 200 ppm 8 hour(s). Form: All forms.</p> <p><b>Manufacturer (United States).</b>            TWA: 100 ppm 8 hour(s). Form: All forms.</p>
Iron (III) oxide	<p><b>ACGIH TLV (United States, 1/2005).</b>            STEL: 400 ppm 15 minute(s). Form: All forms.            TWA: 200 ppm 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b>            STEL: 1225 mg/m<sup>3</sup> 15 minute(s). Form: All forms.            STEL: 500 ppm 15 minute(s). Form: All forms.            TWA: 980 mg/m<sup>3</sup> 10 hour(s). Form: All forms.            TWA: 400 ppm 10 hour(s). Form: All forms.</p> <p><b>OSHA PEL (United States, 8/1997).</b>            TWA: 980 mg/m<sup>3</sup> 8 hour(s). Form: All forms.            TWA: 400 ppm 8 hour(s). Form: All forms.</p>
2-Butoxyethyl acetate	<p><b>ACGIH TLV (United States, 1/2005).</b>            TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: All forms.            TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Dust and fumes</p> <p><b>NIOSH REL (United States, 12/2001).</b>            TWA: 5 mg/m<sup>3</sup> 10 hour(s). Form: Dust and fumes</p> <p><b>OSHA PEL (United States, 8/1997).</b>            TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: All forms.</p>
Ethyl acetate	<p><b>ACGIH TLV (United States, 1/2005).</b>            TWA: 20 ppm 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b>            TWA: 33 mg/m<sup>3</sup> 10 hour(s). Form: All forms.            TWA: 5 ppm 10 hour(s). Form: All forms.</p>
Carbon Black	<p><b>ACGIH TLV (United States, 1/2005).</b>            TWA: 400 ppm 8 hour(s). Form: All forms.            TWA: 1440 mg/m<sup>3</sup> 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b>            TWA: 1400 mg/m<sup>3</sup> 10 hour(s). Form: All forms.            TWA: 400 ppm 10 hour(s). Form: All forms.</p> <p><b>OSHA PEL (United States, 8/1997).</b>            TWA: 1400 mg/m<sup>3</sup> 8 hour(s). Form: All forms.            TWA: 400 ppm 8 hour(s). Form: All forms.</p>
n-Butyl acetate	<p><b>ACGIH TLV (United States, 1/2005).</b>            TWA: 3.5 mg/m<sup>3</sup> 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b>            TWA: 3.5 mg/m<sup>3</sup> 10 hour(s). Form: All forms.</p> <p><b>OSHA PEL (United States, 8/1997).</b>            TWA: 3.5 mg/m<sup>3</sup> 8 hour(s). Form: All forms.</p>
Solvent naphtha (petroleum), light aromatic	<p><b>ACGIH TLV (United States, 1/2005).</b>            STEL: 200 ppm 15 minute(s). Form: All forms.            TWA: 150 ppm 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b>            STEL: 950 mg/m<sup>3</sup> 15 minute(s). Form: All forms.            STEL: 200 ppm 15 minute(s). Form: All forms.            TWA: 710 mg/m<sup>3</sup> 10 hour(s). Form: All forms.            TWA: 150 ppm 10 hour(s). Form: All forms.</p> <p><b>OSHA PEL (United States, 8/1997).</b>            TWA: 710 mg/m<sup>3</sup> 8 hour(s). Form: All forms.            TWA: 150 ppm 8 hour(s). Form: All forms.</p> <p><b>Manufacturer (United States).</b>            TWA: 40 ppm 8 hour(s). Form: All forms.</p>

Aluminum	<p><b>ACGIH TLV (United States, 1/2005).</b> TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Dust</p> <p><b>NIOSH REL (United States, 12/2001).</b> TWA: 5 mg/m<sup>3</sup> 10 hour(s). Form: All forms. TWA: 5 mg/m<sup>3</sup> 10 hour(s). Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 10 hour(s). Form: Total</p> <p><b>OSHA PEL (United States, 8/1997).</b> TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hour(s). Form: Total dust</p>
Lead chromate	<p><b>ACGIH TLV (United States, 1/2005).</b> TWA: 0.05 mg/m<sup>3</sup> 8 hour(s). Form: All forms TWA: 0.5 mg/m<sup>3</sup> 8 hour(s). Form: Inorganic</p> <p><b>NIOSH REL (United States, 12/2001).</b> TWA: 0.5 mg/m<sup>3</sup> 10 hour(s). Form: All forms</p> <p><b>OSHA PEL (United States, 8/1997).</b> TWA: 0.5 mg/m<sup>3</sup> 8 hour(s). Form: All forms</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> CEIL: 0.1 mg/m<sup>3</sup> Form: All forms TWA: 0.5 mg/m<sup>3</sup> 8 hour(s). Form: All forms TWA: 50 µg/m<sup>3</sup> 8 hour(s). Form: All forms</p> <p><b>OSHA PEL Z2 (United States, 8/1997).</b> CEIL: 1 MG10M3 Form: All forms</p>
Ferric ferrocyanide pigment	<p><b>ACGIH TLV (United States, 1/2005).</b> TWA: 1 mg/m<sup>3</sup> 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b> TWA: 1 mg/m<sup>3</sup> 10 hour(s). Form: Soluble</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m<sup>3</sup> 8 hour(s). Form: Soluble</p>
Acetone	<p><b>ACGIH TLV (United States, 1/2005).</b> STEL: 1782 mg/m<sup>3</sup> 15 minute(s). Form: All forms. STEL: 750 ppm 15 minute(s). Form: All forms. TWA: 1188 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 500 ppm 8 hour(s). Form: All forms.</p> <p><b>NIOSH REL (United States, 12/2001).</b> TWA: 590 mg/m<sup>3</sup> 10 hour(s). Form: All forms. TWA: 250 ppm 10 hour(s). Form: All forms.</p> <p><b>OSHA PEL (United States, 8/1997).</b> TWA: 2400 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 1000 ppm 8 hour(s). Form: All forms.</p>

## Canada

### Product name

### Exposure limits

Toluene	<p><b>ACGIH TLV (United States, 1/2005). Skin</b> TWA: 188 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 50 ppm 8 hour(s). Form: All forms.</p>
2-Ethoxyethyl acetate	<p><b>ACGIH TLV (United States, 1/2005). Skin</b> TWA: 27 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 5 ppm 8 hour(s). Form: All forms.</p>
Heptan-2-one	<p><b>ACGIH TLV (United States, 1/2005).</b> TWA: 233 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 50 ppm 8 hour(s). Form: All forms.</p>
Di-isobutyl ketone	<p><b>ACGIH TLV (United States, 1/2005).</b> TWA: 145 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 25 ppm 8 hour(s). Form: All forms.</p>
Hexamethylene-di-isocyanate	<p><b>ACGIH TLV (United States, 1/2005).</b> TWA: 0.03 mg/m<sup>3</sup> 8 hour(s). Form: All forms. TWA: 0.01 ppm 8 hour(s). Form: All forms.</p>

Tetraethyl silicate	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 85 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 10 ppm 8 hour(s). Form: All forms.
Xylene	<b>ACGIH TLV (United States, 1/2005).</b> STEL: 651 mg/m <sup>3</sup> 15 minute(s). Form: All forms. STEL: 150 ppm 15 minute(s). Form: All forms. TWA: 434 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 100 ppm 8 hour(s). Form: All forms.
Toluene	<b>ACGIH TLV (United States, 1/2005). Skin</b> TWA: 188 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 50 ppm 8 hour(s). Form: All forms.
Titanium dioxide	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 10 mg/m <sup>3</sup> 8 hour(s). Form: All forms.
Pentyl acetate	<b>ACGIH TLV (Canada, 1/2005).</b> STEL: 100 ppm 8 hour(s). Form: All forms. TWA: 50 ppm 8 hour(s). Form: All forms.
Methyl ethyl ketone	<b>ACGIH TLV (United States, 1/2005).</b> STEL: 885 mg/m <sup>3</sup> 15 minute(s). Form: All forms. STEL: 300 ppm 15 minute(s). Form: All forms. TWA: 590 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 200 ppm 8 hour(s). Form: All forms.
Isopropyl alcohol	<b>ACGIH TLV (United States, 1/2005).</b> STEL: 400 ppm 15 minute(s). Form: All forms. TWA: 200 ppm 8 hour(s). Form: All forms.
Iron (III) oxide	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 10 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 5 mg/m <sup>3</sup> 8 hour(s). Form: Dust and fumes
2-Butoxyethyl acetate	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 20 ppm 8 hour(s). Form: All forms.
Ethyl acetate	<b>ACGIH TLV (Canada, 1/2005).</b> TWA: 1440 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 400 ppm 8 hour(s). Form: All forms.
Carbon Black	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 3.5 mg/m <sup>3</sup> 8 hour(s). Form: All forms.
n-Butyl acetate	<b>ACGIH TLV (United States, 1/2005).</b> STEL: 200 ppm 15 minute(s). Form: All forms. TWA: 150 ppm 8 hour(s). Form: All forms.
Solvent naphtha (petroleum), heavy aromatic	<b>Manufacturier (Canada).</b> TWA: 17 ppm 8 hour(s).
Solvent naphtha (petroleum), light aromatic	<b>Manufacturier (Canada).</b> TWA: 40 ppm 8 hour(s).
Aluminum	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 5 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 10 mg/m <sup>3</sup> 8 hour(s). Form: Dust
Lead chromate	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 0.05 mg/m <sup>3</sup> 8 hour(s). Form: All forms TWA: 0.5 mg/m <sup>3</sup> 8 hour(s). Form: Inorganic
Ferric ferrocyanide pigment	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 1 mg/m <sup>3</sup> 8 hour(s). Form: All forms.
Acetone	<b>ACGIH TLV (United States, 1/2005).</b> STEL: 1782 mg/m <sup>3</sup> 15 minute(s). Form: All forms. STEL: 750 ppm 15 minute(s). Form: All forms. TWA: 1188 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 500 ppm 8 hour(s). Form: All forms.

## Mexico

## Product name

## Exposure limits

Toluene	<b>NOM-010-STPS (Mexico, 9/2000). Skin</b> CPT: 188 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 50 ppm 8 hour(s). Form: All forms.
2-Ethoxyethyl acetate	<b>NOM-010-STPS (Mexico, 9/2000). Skin</b> CCT: 540 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CCT: 100 ppm 15 minute(s). Form: All forms. CPT: 270 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 50 ppm 8 hour(s). Form: All forms.
Heptan-2-one	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 465 mg/m <sup>3</sup> 15 minute(s). Form: All forms CCT: 100 ppm 15 minute(s). Form: All forms CPT: 235 mg/m <sup>3</sup> 8 hour(s). Form: All forms CPT: 50 ppm 8 hour(s). Form: All forms
Di-isobutyl ketone	<b>NOM-010-STPS (Mexico, 9/2000).</b> CPT: 145 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 25 ppm 8 hour(s). Form: All forms.
Hexamethylene-di-isocyanate	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 0.03 mg/m <sup>3</sup> 8 hour(s). Form: All forms. TWA: 0.01 ppm 8 hour(s). Form: All forms.
Silica, Amorphous	<b>NOM-010-STPS (Mexico, 9/2000).</b> CPT: 10 mg/m <sup>3</sup> 8 hour(s). Form: Inhalable fraction. CPT: 3 mg/m <sup>3</sup> 8 hour(s). Form: Breathable particulates
Tetraethyl silicate	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 255 mg/m <sup>3</sup> 15 minute(s). Form: All forms CCT: 30 ppm 15 minute(s). Form: All forms CPT: 85 mg/m <sup>3</sup> 8 hour(s). Form: All forms CPT: 10 ppm 8 hour(s). Form: All forms
Xylene	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 655 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CCT: 150 ppm 15 minute(s). Form: All forms. CPT: 435 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 100 ppm 8 hour(s). Form: All forms.
Toluene	<b>NOM-010-STPS (Mexico, 9/2000). Skin</b> CPT: 188 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 50 ppm 8 hour(s). Form: All forms.
Titanium dioxide	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 20 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CPT: 10 mg/m <sup>3</sup> 8 hour(s). Form: All forms.
Pentyl acetate	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 800 mg/m <sup>3</sup> 15 minute(s). Form: All forms CCT: 150 ppm 15 minute(s). Form: All forms CPT: 530 mg/m <sup>3</sup> 8 hour(s). Form: All forms CPT: 100 ppm 8 hour(s). Form: All forms
Methyl ethyl ketone	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 885 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CCT: 300 ppm 15 minute(s). Form: All forms. CPT: 590 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 200 ppm 8 hour(s). Form: All forms.
Isopropyl alcohol	<b>NOM-010-STPS (Mexico, 9/2000). Skin</b> CCT: 1225 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CCT: 500 ppm 15 minute(s). Form: All forms. CPT: 980 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 400 ppm 8 hour(s). Form: All forms.
Iron (III) oxide	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 10 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CPT: 5 mg/m <sup>3</sup> 8 hour(s). Form: All forms.
2-Butoxyethyl acetate	<b>ACGIH TLV (United States, 1/2005).</b> TWA: 20 ppm 8 hour(s). Form: All forms.

Ethyl acetate	<b>NOM-010-STPS (Mexico, 9/2000).</b> CPT: 1400 mg/m <sup>3</sup> 8 hour(s). Form: All forms CPT: 400 ppm 8 hour(s). Form: All forms
Carbon Black	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 7 mg/m <sup>3</sup> 15 minute(s). Form: Smoke CPT: 3.5 mg/m <sup>3</sup> 8 hour(s). Form: Smoke
n-Butyl acetate	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 950 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CCT: 200 ppm 15 minute(s). Form: All forms. CPT: 710 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 150 ppm 8 hour(s). Form: All forms.
Aluminum	<b>NOM-010-STPS (Mexico, 9/2000).</b> CPT: 5 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 5 mg/m <sup>3</sup> 8 hour(s). Form: Powder
Lead chromate	<b>NOM-010-STPS (Mexico, 9/2000).</b> CPT: 0.5 mg/m <sup>3</sup> 8 hour(s). Form: All forms CPT: 0.15 mg/m <sup>3</sup> 8 hour(s). Form: Powder and Smoke
Ferric ferrocyanide pigment	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 2 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CPT: 1 mg/m <sup>3</sup> 8 hour(s). Form: All forms.
Acetone	<b>NOM-010-STPS (Mexico, 9/2000).</b> CCT: 3000 mg/m <sup>3</sup> 15 minute(s). Form: All forms. CCT: 1260 ppm 15 minute(s). Form: All forms. CPT: 2400 mg/m <sup>3</sup> 8 hour(s). Form: All forms. CPT: 1000 ppm 8 hour(s). Form: All forms

**Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, 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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Personal protection

- Eyes** : Splash goggles.
- Skin** : Synthetic apron.
- Respiratory** : Vapor respirator.
- Hands** : Nitrile gloves.



**HMIS Code/Personal protective equipment** : J

**Personal protection in case of a large spill** : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear NIOSH-approved self-contained breathing apparatus or equivalent and full protective gear.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Follow good industrial hygiene practice.

## 9 . Physical and chemical properties

- Physical state** : Liquid. (Aerosol.)
- Flash point** : Closed cup: <-50°C (-58°F).(Pensky-Martens.)
- Auto-ignition temperature** : The lowest known value is 229°C (444.2°F) (Solvent naphtha (petroleum), medium aliphatic).
- Flammable limits** : Lower: 0.9% Upper: 36.5%
- Odor** : Solvent. (Strong.)
- pH** : Acidic.

<b>Boiling/condensation point</b>	: 53.89 to 225°C (129 to 437°F)
<b>Melting/freezing point</b>	: Weighted average: -86.02°C (-122.8°F)
<b>Critical temperature</b>	: The lowest known value is 234.9°C (454.8°F) (Acetone).
<b>Relative density</b>	: 0.8 to 1.1 (Water = 1)
<b>Vapor pressure</b>	: 9.3 kPa (70 mm Hg) (at 20°C)
<b>Vapor density</b>	: >1 (Air = 1)
<b>Odor threshold</b>	: Weighted average: 6.1 ppm
<b>Evaporation rate</b>	: <1 compared with Ether (anhydrous).
<b>VOC</b>	: 63 (%)
<b>Viscosity</b>	: Dynamic: The highest known value is 1.8 cP (2-Butoxyethyl acetate) Kinematic (40C): The highest known value is 1 to 2 cSt (Solvent naphtha (petroleum), medium aliphatic)
<b>Solubility</b>	: Easily soluble in acetone. Partially soluble in cold water, hot water, diethyl ether.

## 10 . Stability and reactivity

<b>Stability and reactivity</b>	: The product is stable.
<b>Incompatibility with various substances</b>	: Reactive with oxidizing materials, acids, alkalis and moisture.
<b>Hazardous decomposition products</b>	: These products are halogenated compounds, hydrogen chloride, hydrogen fluoride.
<b>Conditions of reactivity</b>	: Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge. Highly flammable in the presence of the following materials or conditions: heat. Flammable in the presence of the following materials or conditions: shocks and mechanical impacts.

## 11 . Toxicological information

### Toxicity data

Product/ingredient name	Test	Result	Route	Species
Toluene	LD50	636 mg/kg	Oral	Rat
	LD50	1221 mg/kg	Dermal	Rabbit
2-Ethoxyethyl acetate	LD50	2700 mg/kg	Oral	Rat
	LD50	1950 mg/kg	Oral	Rabbit
	LD50	1910 mg/kg	Oral	Guinea pig
	LD50	>19460 mg/kg	Dermal	Guinea pig
	LD50	1670 mg/kg	Oral	Rat
Heptan-2-one	LD50	730 mg/kg	Oral	Mouse
	LD50	10220 mg/kg	Dermal	Rabbit
	LC50	>2000 ppm (4 hour(s))	Inhalation	Rat
	LC50	<4000 ppm (4 hour(s))	Inhalation	Rat
	LD50	5750 mg/kg	Oral	Rat
Di-isobutyl ketone	LD50	1416 mg/kg	Oral	Mouse
	LD50	350 mg/kg	Oral	Mouse
Hexamethylene-di-isocyanate	LD50	600 mg/kg	Dermal	Rabbit
	LC50	22 ppm (4 hour(s))	Inhalation	Rat
	LD50	6270 mg/kg	Oral	Rat
Tetraethyl silicate	LD50	4300 mg/kg	Oral	Rat
	LD50	2119 mg/kg	Oral	Mouse
	LD50	>1700 mg/kg	Dermal	Rabbit
	LC50	6350 ppm (4 hour(s))	Inhalation	Rat
	LD50	636 mg/kg	Oral	Rat
Xylene	LD50	1221 mg/kg	Dermal	Rabbit
	LD50	>1600 mg/kg	Oral	Rat
Toluene	LD50	636 mg/kg	Oral	Rat
Pentyl acetate	LD50	1221 mg/kg	Dermal	Rabbit
	LD50	>1600 mg/kg	Oral	Rat

Methyl ethyl ketone	LD50	7400 mg/kg	Oral	Rabbit
	LD50	2737 mg/kg	Oral	Rat
	LD50	4050 mg/kg	Oral	Mouse
Solvent naphtha (petroleum), medium aliphatic	LD50	6480 mg/kg	Dermal	Rabbit
	LD50	>5000 mg/kg	Oral	Rat
	LD50	>2000 mg/kg	Dermal	Rabbit
Isopropyl alcohol	LD50	5045 mg/kg	Oral	Rat
	LD50	6410 mg/kg	Oral	Rabbit
	LD50	3600 mg/kg	Oral	Mouse
2-Butoxyethyl acetate	LD50	12800 mg/kg	Dermal	Rabbit
	LC50	16000 ppm (8 hour(s))	Inhalation	Rat
	LD50	2400 mg/kg	Oral	Rat
Ethyl acetate	LD50	3200 mg/kg	Oral	Mouse
	LD50	1500 mg/kg	Dermal	Rabbit
	LD50	5620 mg/kg	Oral	Rat
Carbon Black	LD50	4935 mg/kg	Oral	Rabbit
	LD50	4100 mg/kg	Oral	Mouse
	LD50	>18000 mg/kg	Dermal	Rabbit
n-Butyl acetate	LC50	19600 ppm (4 hour(s))	Inhalation	Rat
	LC50	10600 ppm (4 hour(s))	Inhalation	Mouse
	LD50	>15400 mg/kg	Oral	Rat
Solvent naphtha (petroleum), heavy aromatic	LD50	10768 mg/kg	Oral	Rat
	LD50	3200 mg/kg	Oral	Rabbit
	LD50	4300 mg/kg	Oral	Mammal
Solvent naphtha (petroleum), light aromatic	LD50	>17600 mg/kg	Dermal	Rabbit
	LD50	11970 mg/kg	Oral	Rat
	LD50	>4500 mg/kg	Dermal	Rabbit
Acetone	LC50	>580 ppm (4 hour(s))	Inhalation	Rat
	LD50	8400 mg/kg	Oral	Rat
	LD50	5800 mg/kg	Oral	Rat
	LD50	5340 mg/kg	Oral	Rabbit

### Acute Effects

- Eyes** : Irritating to eyes.
- Skin** : Harmful if absorbed through the skin. Irritating to skin. May cause sensitization by skin contact.
- Inhalation** : May be fatal if inhaled. Irritating to respiratory system. May cause sensitization by inhalation.
- Ingestion** : Harmful if swallowed.
- Potential chronic health effects** : Carcinogenic effects Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Toluene]. Classified 3 (Not classifiable for humans.) by IARC [Silica, Amorphous]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Xylene]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Toluene]. Classified 2B (Possible for humans.) by IARC [Titanium dioxide]. Classified None. by NIOSH [Titanium dioxide]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Titanium dioxide]. Classified None. by OSHA [Isopropyl alcohol]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Isopropyl alcohol]. Classified A4 (Not classifiable for humans or animals.) by ACGIH, 3 (Not classifiable for humans.) by IARC [Iron (III) oxide]. Classified A3 (Proven for animals.) by ACGIH [2-Butoxyethyl acetate]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Ethyl acetate]. Classified + (Proven.) by NIOSH [Carbon Black]. Classified 2B (Possible for humans.) by IARC [Carbon Black]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Carbon Black]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [n-Butyl acetate]. Classified + (Proven.) by NIOSH [Lead chromate]. Classified A3 (Proven for animals.) by ACGIH [Lead chromate]. Classified 2 (Reasonably anticipated to be human carcinogens.) by NTP [Lead chromate]. Classified 3 (Not classifiable for humans.) by IARC [Lead chromate]. Classified 3 (Not classifiable for humans.) by IARC [Polymethylmethacrylate]. Classified A4 (Not classifiable for humans or animals.) by ACGIH [Acetone].

Mutagenic effects: Classified None. for humans [Isopropyl alcohol].

Teratogenic effects: Not available.

**Target organs** : Contains material which causes damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, mucous membranes, lymphatic system, peripheral nervous system, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea, nose/sinuses, throat.

**Special remarks on chronic effects on humans** : Embryotoxic and/or fetotoxic in animals. (Xylene)

## 12 . Ecological information

### Ecotoxicity data

Product/ingredient name	Species	Period	Result
Toluene	Daphnia magna (EC50)	48 hour(s)	6 mg/l
	Daphnia magna (EC50)	48 hour(s)	6.56 mg/l
	Oncorhynchus mykiss (EC50)	48 hour(s)	6.78 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	5.8 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	6.78 mg/l
	Pimephales promelas (LC50)	96 hour(s)	12.6 mg/l
2-Ethoxyethyl acetate	Lepomis macrochirus (LC50)	96 hour(s)	41 mg/l
	Pimephales promelas (LC50)	96 hour(s)	42.1 mg/l
	Pimephales promelas (LC50)	96 hour(s)	42.2 mg/l
	Pimephales promelas (LC50)	96 hour(s)	42.8 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	45 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	52 mg/l
Heptan-2-one	Pimephales promelas (LC50)	96 hour(s)	131 mg/l
Xylene	Oncorhynchus mykiss (LC50)	96 hour(s)	3.3 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	8.2 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	8.6 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	12 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	13.3 mg/l
	Pimephales promelas (LC50)	96 hour(s)	13.4 mg/l
Toluene	Daphnia magna (EC50)	48 hour(s)	6 mg/l
	Daphnia magna (EC50)	48 hour(s)	6.56 mg/l
	Oncorhynchus mykiss (EC50)	48 hour(s)	6.78 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	5.8 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	6.78 mg/l
	Pimephales promelas (LC50)	96 hour(s)	12.6 mg/l
Titanium dioxide	Daphnia magna (EC50)	48 hour(s)	>1000 mg/l
Methyl ethyl ketone	Daphnia magna (EC50)	48 hour(s)	5091 mg/l
	Pimephales promelas (LC50)	96 hour(s)	3220 mg/l
Isopropyl alcohol	Pimephales promelas (EC50)	48 hour(s)	10000 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	>1400 mg/l
	Pimephales promelas (LC50)	96 hour(s)	6550 mg/l
	Pimephales promelas (LC50)	96 hour(s)	9640 mg/l
	Pimephales promelas (LC50)	96 hour(s)	10400 mg/l
	Pimephales promelas (LC50)	96 hour(s)	11130 mg/l
	2-Butoxyethyl acetate	Daphnia (EC50)	24 hour(s)
Ethyl acetate	Pimephales promelas (EC50)	48 hour(s)	260 mg/l
	Scenedesmus subspicatus (EC50)	48 hour(s)	3300 mg/l
	Scenedesmus subspicatus (EC50)	48 hour(s)	5600 mg/l
	Pimephales promelas (LC50)	96 hour(s)	230 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	425.3 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	484 mg/l
n-Butyl acetate	Pimephales promelas (EC50)	48 hour(s)	19 mg/l
	Pimephales promelas (LC50)	96 hour(s)	18 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	100 mg/l
Aluminum	Oncorhynchus mykiss (LC50)	96 hour(s)	0.12 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	0.16 mg/l

Acetone	Oncorhynchus mykiss (LC50)	96 hour(s)	0.31 mg/l
	Daphnia magna (EC50)	48 hour(s)	23.5 mg/l
	Pimephales promelas (EC50)	48 hour(s)	8990 mg/l
	Daphnia magna (EC50)	48 hour(s)	13500 mg/l
	Pimephales promelas (LC50)	96 hour(s)	>100 mg/l
	Daphnia magna (LC50)	96 hour(s)	>100 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	5540 mg/l




- Environmental precautions** : Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
- Products of degradation** : These products are carbon oxides and water, nitrogen oxides, halogenated compounds. Some metallic oxides.
- Toxicity of the products of biodegradation** : The products of degradation are as toxic as the product itself.

## 13 . Disposal considerations

- Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers. 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 and local authority requirements.

## 14 . Transport information

NAERG : 126

Regulatory information	Proper shipping name	Class	UN number	PG	Label
<b>UN / IMDG / IATA Classification</b>	AEROSOLS, FLAMMABLE, N.O.S. (each not exceeding 1 L capacity) (Difluoroethane, Toluene)	2.1	UN1950	-	
<b>DOT Classification</b>	AEROSOLS, FLAMMABLE, N.O.S. (each not exceeding 1 L capacity) (Difluoroethane, Toluene)	2.1	UN1950	-	
<b>TDG Classification</b>	AEROSOLS, FLAMMABLE, N.O.S. (each not exceeding 1 L capacity) (Difluoroethane, Toluene)	2.1	UN1950	-	

## 15 . Regulatory information

### United States

- HCS Classification** : Flammable aerosol  
Pressure hazard  
Highly toxic material  
Irritating material  
Sensitizing material  
Carcinogen  
Target organ effects
- U.S. Federal regulations** : TSCA 4(a) final test rules: Pentyl acetate; Ethyl acetate; n-Butyl acetate; Acetone  
TSCA 5(a)2 proposed significant rules: 2-Ethoxyethyl acetate  
TSCA 6 final risk management: Lead chromate  
TSCA 8(a) PAIR: Tetraethyl silicate; Quinacridone; Pentyl acetate  
TSCA 8(b) inventory: All components listed.  
TSCA 8(d) H and S data reporting: Hexamethylene-di-isocyanate: 1990  
TSCA 12(b) one-time export: Pentyl acetate; Ethyl acetate; n-Butyl acetate; Acetone  
TSCA 12(b) annual export notification: 2-Ethoxyethyl acetate; Lead chromate

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: Difluoroethane; Toluene; 2-Ethoxyethyl acetate; Difluoroethane; Heptan-2-one; Di-isobutyl ketone; Hexamethylene-di-isocyanate; Tetraethyl silicate; Xylene; Toluene; Titanium dioxide; Pentyl acetate; Methyl ethyl ketone; Isopropyl alcohol; Iron (III) oxide; 2-Butoxyethyl acetate; Ethyl acetate; Carbon Black; n-Butyl acetate; Aluminum; Lead chromate; Acetone  
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification:  
 Difluoroethane: Fire hazard, Sudden release of pressure, Delayed (chronic) health hazard; Toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; 2-Ethoxyethyl acetate: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Difluoroethane: Fire hazard, Sudden release of pressure, Delayed (chronic) health hazard; Heptan-2-one: Fire hazard, Immediate (acute) health hazard; Di-isobutyl ketone: Fire hazard, Immediate (acute) health hazard; Hexamethylene-di-isocyanate: Immediate (acute) health hazard; Tetraethyl silicate: Fire hazard, Immediate (acute) health hazard; Xylene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Light aliphatic solvent naphtha: Delayed (chronic) health hazard; Toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Titanium dioxide: Delayed (chronic) health hazard; Pentyl acetate: Fire hazard, Immediate (acute) health hazard; Methyl ethyl ketone: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Isopropyl alcohol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Iron (III) oxide: Immediate (acute) health hazard; 2-Butoxyethyl acetate: Fire hazard, Immediate (acute) health hazard; Ethyl acetate: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Carbon Black: Immediate (acute) health hazard, Delayed (chronic) health hazard; n-Butyl acetate: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Aluminum: Fire hazard, reactive; Lead chromate: Delayed (chronic) health hazard; Acetone: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard  
 Clean Water Act (CWA) 307: Toluene; Toluene; Copper Phthalocyanine; Lead chromate  
 Clean Water Act (CWA) 311: Toluene; Xylene; Toluene; Pentyl acetate; n-Butyl acetate  
 Clean Air Act (CAA) 112 accidental release prevention: Difluoroethane; Difluoroethane  
 Clean Air Act (CAA) 112 regulated flammable substances: Difluoroethane; Difluoroethane  
 Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

**SARA 313****Form R - Reporting requirements**

<b>Product name</b>	<b>CAS number</b>	<b>Concentration</b>
Toluene	108-88-3	30 - 60
2-Ethoxyethyl acetate	111-15-9	1 - 5
Hexamethylene-di-isocyanate	822-06-0	1 - 5
Xylene	1330-20-7	1 - 5
Toluene	108-88-3	1 - 5
Methyl ethyl ketone	78-93-3	1 - 5
Isopropyl alcohol	67-63-0	1 - 5
2-Butoxyethyl acetate	112-07-2	1 - 5
Aluminum	7429-90-5	1 - 5
Lead chromate	18454-12-1	1 - 5

**Supplier notification**

Toluene	108-88-3	30 - 60
2-Ethoxyethyl acetate	111-15-9	1 - 5
Hexamethylene-di-isocyanate	822-06-0	1 - 5
Xylene	1330-20-7	1 - 5
Toluene	108-88-3	1 - 5
Methyl ethyl ketone	78-93-3	1 - 5
Isopropyl alcohol	67-63-0	1 - 5
2-Butoxyethyl acetate	112-07-2	1 - 5
Aluminum	7429-90-5	1 - 5
Lead chromate	18454-12-1	1 - 5

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**

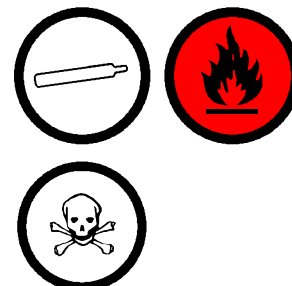
: Pennsylvania RTK: Toluene: (environmental hazard, generic environmental hazard); 2-Ethoxyethyl acetate: (environmental hazard, generic environmental hazard); Heptan-2-one: (generic environmental hazard); Di-isobutyl ketone: (generic environmental hazard); Silica, Amorphous: (generic environmental hazard); Tetraethyl silicate: (generic environmental hazard); Xylene: (environmental hazard, generic environmental hazard); Toluene: (environmental hazard, generic environmental hazard); Titanium dioxide: (generic environmental hazard); Pentyl acetate: (environmental hazard, generic environmental hazard); Copper Phthalocyanine: (environmental hazard, generic environmental hazard); Methyl ethyl ketone: (environmental hazard, generic environmental hazard); Isopropyl alcohol: (environmental hazard, generic environmental hazard); Iron (III) oxide: (environmental hazard, generic environmental hazard); 2-Butoxyethyl acetate: (environmental hazard, generic environmental hazard); Ethyl acetate: (environmental hazard, generic environmental hazard); Carbon Black: (generic environmental hazard); n-Butyl acetate: (environmental hazard, generic environmental hazard); Aluminum: (environmental hazard, generic environmental hazard); Lead chromate: (special hazard, environmental hazard, generic environmental hazard); Ferric ferrocyanide pigment: (environmental hazard, generic environmental hazard); Acetone: (environmental hazard, generic environmental hazard)  
 Massachusetts RTK: Difluoroethane; Toluene; 2-Ethoxyethyl acetate; Difluoroethane; Heptan-2-one; Di-isobutyl ketone; Hexamethylene-di-isocyanate; Silica, Amorphous; Tetraethyl silicate; Xylene; Toluene; Titanium dioxide; Pentyl acetate; Methyl ethyl ketone; Isopropyl alcohol; Iron (III) oxide; Ethyl acetate; Carbon Black; n-Butyl acetate; Aluminum; Lead chromate; Acetone  
 New Jersey: Difluoroethane; Toluene; 2-Ethoxyethyl acetate; Difluoroethane; Heptan-2-one; Di-isobutyl ketone; Hexamethylene-di-isocyanate; Silica, Amorphous; Tetraethyl silicate; Xylene; Toluene; Titanium dioxide; Pentyl acetate; Copper Phthalocyanine; Methyl ethyl ketone; Isopropyl alcohol; Iron (III) oxide; 2-Butoxyethyl acetate; Ethyl acetate; Carbon Black; n-Butyl acetate; Aluminum; Lead chromate; Acetone  
**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
2-Ethoxyethyl acetate	No.	Yes.	No.	No.
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Carbon Black	Yes.	No.	No.	No.
Lead chromate	Yes.	No.	No.	No.

**Canada**

**WHMIS (Canada)**

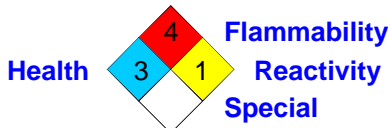
: Class A: Compressed gas.  
 Class B-5: Flammable aerosol.  
 Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
 Class D-2A: Material causing other toxic effects (Very toxic).  
 Class D-2B: Material causing other toxic effects (Toxic).



DSL : All components listed.

This product has been classified in accordance with the hazard criteria of the Canadian CPR, the United States OSHA and the Mexican NOM -018-STPS-2000. This MSDS contains all the information required by the CPR, OSHA, the American National Standard Institute (ANSI) Z400.1 and NOM -018-STPS-2000.

**Mexico**

<b>Classification</b>	:		<b>HAZARD RATINGS</b> 4- Extreme 3- Serious 2- Moderate 1- Slight 0- Minimal
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**International lists** : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

**16 . Other information**

**Label requirements (U.S.A.)** : EXTREMELY FLAMMABLE LIQUID AND VAPOR.  
 VAPOR MAY CAUSE FIRE.  
 CONTENTS UNDER PRESSURE.  
 MAY BE FATAL IF INHALED.  
 CANCER HAZARD.  
 CONTAINS MATERIAL WHICH CAN CAUSE CANCER.  
 BIRTH DEFECT HAZARD.  
 CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECT.  
 HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.  
 MAY CAUSE SEVERE ALLERGIC RESPIRATORY REACTION.  
 CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
 MAY CAUSE ALLERGIC SKIN REACTION.  
 CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
 BLOOD, KIDNEYS, LUNGS, REPRODUCTIVE SYSTEM, LIVER, MUCOUS  
 MEMBRANES, LYMPHATIC SYSTEM, PERIPHERAL NERVOUS SYSTEM,  
 GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS  
 SYSTEM, EYE, LENS OR CORNEA, NOSE, SINUSES, THROAT.

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

	<b>HMIS RATING</b>		<b>HAZARD RATINGS</b>												
	<table border="1"> <tr> <td>Health</td> <td>*</td> <td>3</td> </tr> <tr> <td>Fire hazard</td> <td></td> <td>4</td> </tr> <tr> <td>Physical Hazard</td> <td></td> <td>1</td> </tr> <tr> <td>Personal protection</td> <td></td> <td>J</td> </tr> </table>	Health	*	3	Fire hazard		4	Physical Hazard		1	Personal protection		J		4- Extreme 3- Serious 2- Moderate 1- Slight 0- Minimal See section 8 for more detailed information on personal protection.
Health	*	3													
Fire hazard		4													
Physical Hazard		1													
Personal protection		J													

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

**References** : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005. - Official Mexican Standards NOM-018-STPS-2000 and NOM-004-SCT2-1994.

**Date of issue** : 11/15/2006  
**Version** : 1

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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.