



# Safety Data Sheet

## CLEAR CRACKLE LACQUER



### 1. Identification

<b>Product identifier</b>	CLEAR CRACKLE LACQUER		
<b>Product code</b>	500-0009		
<b>Other means of identification</b>	None.		
<b>Recommended use of the chemical and restrictions on use</b>	A protective and/or decorative finish or accompanying paint product. Not recommended for any other use not detailed on product data sheet or label.		
<b>Manufacturer</b>	GEMINI INDUSTRIES, INC. 2300 Holloway Drive El Reno, OK 73036 USA  Tel. 1-800-262-5710 Fax 1-405-262-9310 <a href="http://www.geminicoatings.com">www.geminicoatings.com</a>		
<b>Emergency phone number</b>	24-hour Emergency (Spill, Leak, Exposure or accident) INFOTRAC 800-535-5053 Outside USA, Call Collect 1-352-323-3500 (French & English)  HAZMAT Response and MSDS Help: EMI 800-510-8510		

### 2. Hazard identification

<b>Summary</b>	Flammable liquid. Keep away from heat, sparks and open flame. Avoid contact with skin, eyes and clothing. Do not breathe vapours, mists or aerosols. Do not ingest. If ingested consult physician immediately and show this Safety Data Sheet. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved.
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#### WHMIS 2015/OSHA HCS 2012/GHS

  	Flammable liquids (Category 2) Skin corrosion/irritation (Category 2) Serious eye damage/eye irritation (Category 2) Germ cell mutagenicity (Category 1B) Carcinogenicity (Category 1B) Reproductive toxicity (Category 1) Specific target organ toxicity, single exposure (Category 3) Specific target organ toxicity, repeated exposure (Category 2) Aspiration hazard (Category 1)
	<b>Other hazards which do not result in classification :</b> Acute hazard to the aquatic environment (Category 2). Long-term hazard to the aquatic environment (Category 2)

**DANGER**

- H225: Highly flammable liquid and vapour
- H350: May cause cancer
- H340: May cause genetic defects

H360: May damage fertility or the unborn child  
H304: May be fatal if swallowed and enters airways  
H319: Causes serious eye irritation  
H315: Causes skin irritation  
H335: May cause respiratory irritation  
H336: May cause drowsiness or dizziness  
H373: May cause damage to organs through prolonged or repeated exposure by inhalation  
H411: Toxic to aquatic life with long lasting effects  
P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P210: Keep away from heat, sparks, open flames and other ignition sources. No smoking.  
P240: Ground or bond container and receiving equipment.  
P241: Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.  
P242: Use only non-sparking tools.  
P243: Take precautionary measures against static discharge.  
P260: Do not breathe mist, vapours and spray.  
P264: Wash skin thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P273: Avoid release to the environment.  
P280: Wear protective gloves, protective clothing and eye protection.  
P301+310+331: IF SWALLOWED: Immediately call a POISON CENTER or a physician. Do NOT induce vomiting.  
P303+361+353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water and soap or take a shower if necessary.  
P332+313: If skin irritation occurs: Get medical advice or attention.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P314: Get Medical advice/attention if you feel unwell.  
P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
P337+313: If eye irritation persists: Get medical advice or attention.  
P308+313: IF exposed or concerned: Get medical advice/attention.  
P321: Specific treatment (see section 4 of SDS or on this label).  
P362+364: Take off contaminated clothing and wash before reuse.  
P370+378: In case of fire: Use the National Fire Protection Association Class B extinguisher for extinction.  
P391: Collect spillage.  
P403+P235+P233: Store in a well-ventilated place. Keep container tightly closed. Keep cool.  
P405: Store locked up.  
P501: Dispose of contents and container to a licensed chemical disposal agency in accordance with local, regional and national regulations.

### 3. Composition/information on ingredients

Common name	CAS	Weight % content
Methyl Propyl Ketone	107-87-9	24 - 26 %
Isobutyl acetate	110-19-0	16 - 18 %
Methyl acetate	79-20-9	9 - 11 %
tert-Butyl acetate	540-88-5	9 - 11 %
Ethyl Acetate	141-78-6	7.5 - 8.5 %
Toluene	108-88-3	6.5 - 7.5 %
Distillates (petroleum), light distillate hydrotreating process, low-boiling	68410-97-9	4.5 - 5.5 %
Synthetic Amorphous Fumed Silica	112945-52-5	3.5 - 4.5 %
Nitrocellulose	9004-70-0	3.5 - 4.5 %
Methyl isobutyl ketone	108-10-1	2.5 - 3.5 %
Isopropyl alcohol	67-63-0	1.5 - 2.5 %

Solvent naphtha (petroleum), light aromatic (C8 to C10)	64742-95-6	0.1 - 1 %
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#### 4. First-aid measures

<b>Inhalation</b>	Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. If a problem develops or persists, seek medical attention.
<b>Skin contact</b>	Wash skin with warm water and mild soap for at least 15 minutes. Remove contaminated clothing and wash before reuse. Avoid touching eyes with contaminated body parts. If a problem develops or persists, seek medical attention.
<b>Eye contact</b>	IMMEDIATELY! Flush with water for at least 15 minutes. Remove contact lenses. Hold eyelids apart to rinse properly. If a problem develops or persists, seek medical attention.
<b>Ingestion</b>	DO NOT induce vomiting, unless recommended by medical personnel. Never give anything by mouth if victim is unconscious or convulsing. If victim is conscious wash out mouth with water and give 1-2 glasses of water to drink. If spontaneous vomiting occurs, keep head below hip level to prevent aspiration into the lungs. Seek medical attention or contact a Poison Centre immediately.
<b>Other</b>	No information available.
<b>Symptoms</b>	May cause redness and irritation of the skin and to eyes. May cause respiratory tract irritation. Inhalation of vapours may cause central nervous system depression such as drowsiness, headache, dizziness, vertigo, nausea and fatigue. Harmful or fatal if inhaled into the lungs (ingestion/vomiting). Can enter lungs and cause damage. Signs of lung involvement include increased respiratory rate, increased heart rate, and a bluish discolouration of the skin. Coughing, choking and gagging are often noted at the time of aspiration.
<b>Notes to the physician</b>	Treat symptomatically. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Class B extinguishers. Dry chemicals, alcohol resistant foam, carbon dioxide (CO <sub>2</sub> ). Do not use direct water jet.
<b>Specific hazards arising from the chemical</b>	Very flammable liquid and vapours. May be ignited by heat, sparks, flame or static electricity. Vapours are heavier than air and may travel to an ignition source distant from the material handling point. Do not apply to hot surfaces. Contact with strong oxidizers may cause fire. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Special protective equipment</b>	Firefighters must wear self contained breathing apparatus with full face mask. Firefighting suit may not be efficient against chemicals.
<b>Special protective actions for fire-fighters</b>	Use water spray to cool fire-exposed containers. Water spray can reduce the intensity of the flames. However, the water jets can spread the fire. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Do not touch spilled material. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet.
<b>Environmental precautions</b>	Prevent entry in sewer and other enclosed area. For a large spill, consult the Department of Environment or the relevant authorities.
<b>Methods and materials for containment and</b>	Remove sources of ignition. Ventilate the area well. Stop leak, if it's possible to do so without risk. Absorb with inert material (soil, sand, vermiculite) and place in an appropriate waste disposal clearly identified. Use non-sparking and antistatic tools. Dispose via a licensed waste disposal contractor.

<b>cleaning up</b>	Finish cleaning the contaminated surface by rinsing with soapy water. PS: Rags and others materials soaked with paint or solvent may spontaneously catch fire if improperly store or discarded. Immediately after each use place rags and paper towels in a sealed water-filled metal container to prevent spontaneous combustion.
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## 7. Handling and storage

<b>Precautions for safe handling</b>	Keep away from heat, sparks and open flame. Turn off all pilot lights, flames, stoves, heaters, electric motors, welding equipment and other sources of ignition. Use non-sparking and antistatic tools. Ground/bond all containers when transferring large quantities (5 gallons US or 20 L and more). Use only in well ventilated area. Avoid prolonged or repeated breathing of vapour or mists. Avoid contact with skin, eyes and clothing. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved. Keep containers tightly closed when not in use. Containers of this material may be hazardous even when empty. Since empty containers retain product residues (vapour, liquid), all hazard precautions given in this sheet must be observed. Do not eat, do not drink and do not smoke during use. Wash hands, forearms and face thoroughly after handling this compound and before eating, drinking or using toiletries. Remove contaminated clothing and wash before reuse. Rags, steel wool and paper towels soaked with this product may overheat and spontaneously ignite if piled in a heap. After use immediately store them in water-filled metal can with tight fitting lid.
<b>Conditions for safe storage, including any incompatibilities</b>	Storage and handling should follow the NFPA 30 Flammable and/or Combustible Liquids Code and the National Fire Code of Canada (NFCC). Store tightly closed and in properly labelled container in a dry, cool and well ventilated place. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store away from oxidizing materials and incompatible materials (see section 10). Keep away from direct sunlight and heat.
<b>Storage temperature</b>	10 to 25°C (50 to 77°F)

## 8. Exposure controls/personal protection

<b>Immediately Dangerous to Life or Health</b>	Methyl Propyl Ketone: 1500 ppm. Isobutyl acetate: 1300 ppm. Toluene : 500 ppm. Methyl Acetate: 3100 ppm. tert-Butyl acetate: 1500 ppm. Ethyl acetate: 2000 ppm. Titanium dioxide: 5000 mg/m <sup>3</sup> . Synthetic Amorphous Fumed Silica: 3000 mg/m <sup>3</sup> . Isopropyl alcohol: 2000 ppm. Methyl isobutyl ketone: 500 ppm.			
Methyl Propyl Ketone	Ceiling	150 ppm		ACGIH , ON
	STEL	250 ppm		BC
	TWA (8h)	150 ppm		BC
		150 ppm	530 mg/m <sup>3</sup>	RSST
Isobutyl acetate	TWA (8h)	150 ppm		ACGIH , BC, ON
		150 ppm	713 mg/m <sup>3</sup>	RSST
Methyl acetate	STEL	250 ppm		ACGIH , BC, ON
		250 ppm	757 mg/m <sup>3</sup>	RSST
	TWA (8h)	200 ppm		ACGIH , BC, ON
		200 ppm	606 mg/m <sup>3</sup>	RSST
tert-Butyl acetate	TWA (8h)	200 ppm		ACGIH , BC, ON
		200 ppm	950 mg/m <sup>3</sup>	RSST
Ethyl Acetate	TWA (8h)	150 ppm		BC
		400 ppm		ACGIH , ON
		400 ppm	1440 mg/m <sup>3</sup>	RSST

Toluene	TWA (8h)		20 ppm		ACGIH , BC, ON
			50 ppm	188 mg/m <sup>3</sup>	RSST (Pc)
Synthetic Amorphous Fumed Silica	TWA (8h)	Respirable Dust		1.5 mg/m <sup>3</sup>	BC
		Respirable Dust		3 mg/m <sup>3</sup>	ACGIH , ON
		Total Dust		4 mg/m <sup>3</sup>	BC
		Respirable Dust		6 mg/m <sup>3</sup>	RSST
		Total Dust		10 mg/m <sup>3</sup>	ACGIH , ON
Methyl isobutyl ketone	STEL		75 ppm		ACGIH , BC, ON
			75 ppm	307 mg/m <sup>3</sup>	RSST
Isopropyl alcohol	TWA (8h)		20 ppm		ACGIH , BC, ON
			50 ppm	205 mg/m <sup>3</sup>	RSST
	STEL		400 ppm		ACGIH , BC, ON
			500 ppm	1230 mg/m <sup>3</sup>	RSST
		TWA (8h)		200 ppm	
			400 ppm	983 mg/m <sup>3</sup>	RSST

<b>Appropriate engineering controls</b>	Provide sufficient mechanical ventilation (general and/or local exhaust) to keep the airborne concentrations of vapours, mists, aerosols or dust below their respective occupational exposure limits.
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### Individual protection measures

<b>Eye</b>	Wear chemical splash goggles.
<b>Hands</b>	Wear nitrile or neoprene gloves. Before using, user should confirm impermeability. Discard gloves with tears, pinholes, or signs of wear. Gloves must only be worn on clean hands. Wash gloves with water before removing them. After using gloves, hands should be washed and dried thoroughly.
<b>Skin</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Wear normal work clothing covering arms and legs as required by employer code. If necessary, wear an apron or long-sleeve protective coverall suit.
<b>Respiratory</b>	Respiratory protection is not required for normal use. Respiratory protection equipment (RPE) must be selected, fitted, maintained and inspected in accordance with regulations and CSA Standard Z 94.4 and approved by NIOSH / MSHA. In case of insufficient ventilation or in confined or enclosed space and for an assigned protection factor (APF) up to 10 times the exposure limit, wear a half mask respirator with organic vapour cartridges fitted with P100 filters. For an APF until maximum 100 times of exposure limit, wear a full face respirator mask with organic vapour cartridges and P100 filters.
<b>Feet</b>	Wear rubber boots to clean up a spill.

## 9. Physical and chemical properties

<b>Physical state</b>	Liquid	<b>Flammability</b>	Flammable
<b>Colour</b>	Clear or coloured	<b>Flammability limits</b>	N/Av.
<b>Odour</b>	Solvent odor	<b>Flash point</b>	-13°C (8.6°F)
<b>Odour threshold</b>	N/Av.	<b>Auto-ignition temperature</b>	N/Av.
<b>pH</b>	N/Av.	<b>Sensibility to electrostatic charges</b>	Yes
<b>Melting point</b>	N/Av.	<b>Sensibility to sparks and/or friction</b>	No
<b>Freezing point</b>	N/Av.	<b>Vapour density</b>	>1 (Air = 1)
<b>Boiling point</b>	57 to 111°C (134.6 to 231.8°F)	<b>Relative density</b>	0.90 kg/L (Water = 1)

<b>Solubility</b>	Negligeable (<5%) in water	<b>Partition coefficient n-octanol/water</b>	N/Av.
<b>Evaporation rate</b>	> Butyl Acetate	<b>Decomposition temperature</b>	N/Av.
<b>Vapour pressure</b>	N/Av.	<b>Viscosity</b>	N/Av.
<b>Percent Volatile</b>	87.16%	<b>Molecular mass</b>	N/Ap.
N/Av.: Not Available    N/Ap.: Not Applicable    Und.: Undetermined    N/E: Not Established			

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions (including polymerizations)</b>	A dangerous reaction will not occur.
<b>Conditions to avoid</b>	Avoid heat, flame and sparks. Avoid contact with incompatible materials.
<b>Incompatible materials</b>	Strong bases, mineral acids, strong oxidizing agents (such as nitric acid, perchloric acid, peroxides, chlorates and perchlorates).
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

<b>Numerical measures of toxicity</b>	Methyl Propyl Ketone	Ingestion 3730 mg/kg	Rat	LD50
		1600 mg/kg	Mouse	LD50
		Inhalation 11 mg/l/4h	Rat	LC50
		Skin 6472 mg/kg	Rabbit	LD50
	Isobutyl acetate	Ingestion 13400 mg/kg	Rat	LD50
		Inhalation >38 mg/l/4h	Rat	LC50
		Skin >17400 mg/kg	Rabbit	LD50
	Methyl acetate	Ingestion 6482 mg/kg	Rat	LD50
		Inhalation >34 mg/l/4h	Rat	LC50
		Skin >5000 mg/kg	Rabbit	LD50
	tert-Butyl acetate	Ingestion 4100 mg/kg	Rat	LD50
		Inhalation 24 mg/l/4h	Rat	LC50
		Skin >2000 mg/kg	Rabbit	LD50
	Ethyl Acetate	Ingestion 5620 mg/kg	Rat	LD50
		Inhalation 38.2 mg/l/4h	Mouse	LC50
		Skin >18000 mg/kg	Rabbit	LD50
	Toluene	Ingestion 5600 mg/kg	Rat	LD50
		Inhalation 30.2 mg/l/4h	Rat	LC50
		Skin 12600 mg/kg	Rabbit	LD50
	Distillates (petroleum), light distillate hydrotreating process, low-boiling	Ingestion >2000 mg/kg	Rat	LD50
	Inhalation >12408 ppm/4h	Rat	LC50	
	Skin >2000 mg/kg	Rabbit	LD50	
Nitrocellulose	Ingestion >5000 mg/kg	Rat	LD50	
Synthetic Amorphous Fumed Silica	Ingestion >5000 mg/kg	Rat	LD50	
	Inhalation >2.08 mg/l/4h	Rat	LC50	
	Skin >5000 mg/kg	Rabbit	LD50	
Methyl isobutyl ketone	Ingestion 2080 mg/kg	Rat	LD50	

			Inhalation <16.4 mg/l/4h	Rat	LC50
			>8.2 mg/l/4h	Rat	LC50
			Skin >3000 mg/kg	Rat	LD50
	Isopropyl alcohol		Ingestion 5045 mg/kg	Rat	LD50
			Inhalation 66.1 mg/l/4h	Rat	LC50
			Skin 6280 mg/kg	Rat	LD50
	Solvent naphtha (petroleum), light aromatic (C8 to C10)		Ingestion 8400 mg/kg	Rat	LD50
			Inhalation >5.2 mg/l/4h	Rat	LC50
			Skin >3750 mg/kg	Rabbit	LD50
<b>Likely routes of exposure</b>	Skin, eyes, inhalation, ingestion.				
<b>Delayed, immediate and chronic effects</b>	<b>Eye contact</b>	May cause irritation, redness, tearing and blurred vision. Eye Irritation/Corrosion, Rabbit (OECD TG 405): tests performed with each ingredient of this mixture gave not irritating to irritating results.			
	<b>Skin contact</b>	May cause redness, dryness, rash and skin irritation. Skin Irritation/Corrosion, Rabbit (OECD 404) : tests performed with each ingredient of this mixture gave not irritating to irritating results. Widespread contact with skin for several hours can cause harmful amounts of material to be absorbed.			
	<b>Inhalation</b>	Excessive inhalation is harmful. May cause respiratory tract irritation. Inhalation of vapours may cause central nervous system depression such as drowsiness, headache, dizziness, vertigo, nausea and fatigue. The severity of symptoms may vary depending on exposure conditions. Repeated and prolonged occupational overexposure to solvents may cause damage to target organs.			
	<b>Ingestion</b>	Swallowing will causes digestive tract disturbances resulting in nausea, vomiting, cramps and diarrhea. Harmful or fatal if inhaled into the lungs (ingestion/vomiting). Can enter lungs and cause damage. Signs of lung involvement include increased respiratory rate, increased heart rate, and a bluish discolouration of the skin. Coughing, choking and gagging are often noted at the time of aspiration.			
	<b>Respiratory or skin sensitization</b>	Ingredients present at levels greater than or equal to 0.1% of this product are not skin or respiratory sensitizers.			
	<b>IARC/NTP Classification</b>	<b>Common name</b>	<b>IARC NTP</b>		
		Methyl isobutyl ketone	2B	-	
		IARC : 1- Carcinogenic; 2A- Probably carcinogenic; 2B- Possibly carcinogenic. NTP : K- Known to be carcinogens; R- Reasonably anticipated to be carcinogens.			
	<b>Carcinogenicity</b>	The risk of cancer depends on duration and level of exposure. In the absence of specific test data, the classification of the mixture solvent naphtha (petroleum), light aromatic (C8-C10) (CAS No. 64742-95-6) should be determined based on the levels of benzene (CAS no. 71-43-2). This classification need not apply if it can be shown that the chemical contains less than 0.1 % w/w benzene. In the absence of specific test data, the classification of Distillates (petroleum), light distillate hydrotreating process, low-boiling (CAS no 68410-97-9) should be determined based on the levels of benzene (CAS no. 71-43-2). This classification need not apply if it can be shown that the chemical contains less than 0.1 % w/w benzene.			
	<b>Mutagenicity</b>	In the absence of specific test data, the classification of the mixture solvent naphtha (petroleum), light aromatic (C8-C10) (CAS No. 64742-95-6) should be determined based on the levels of benzene (CAS no. 71-43-2). This classification need not apply if it can be shown that the chemical contains less than 0.1 % w/w benzene. In the absence of specific test data, the classification of Distillates (petroleum), light distillate hydrotreating process, low-boiling (CAS no 68410-97-9) should be determined based on the levels of benzene (CAS no. 71-43-2). This classification need not apply if it can be shown that the chemical contains less than 0.1 % w/w benzene.			
	<b>Reproductive toxicity</b>	Toluene cross the placental barrier in humans and it is found in breast milk in animals. Toluene has an embryotoxic and/or fetotoxic hazard in humans.			
	<b>Specific target organ toxicity - single exposure</b>	Central nervous system, respiratory system.			
	<b>Specific target organ toxicity - repeated exposure</b>	Central nervous system, liver, kidneys, hearing organs.			

<b>Interactive effects</b>	No information available for this product.
<b>Other information</b>	The acute toxicity estimate (ATE) by inhalation of the mixture was calculated to be greater than 20 mg/L/4h. This value is not classified according to GHS. The oral and skin acute toxicity estimates (ATE) of the mixture were calculated to be greater than 2000 mg/kg. These values are not classified according to WHMIS 2015 and OSHA HCS 2012.

## 12. Ecological information

<b>Ecological toxicity</b>	<p>Fish - Pimephales promelas [flow-through] LC50 18 mg/L; 96h (Butyl acetate)</p> <p>Aquatic Plant - Algea, Desmodesmus subspicatus EC50 675 mg/L; 72h (Butyl acetate)</p> <p>Algea, Pseudokirchneriella subcapitata EC50 579 mg/L; 96h (Nitrocellulose)</p> <p>Fish - Pimephales promelas [flow-through] LC50 1190-1290 mg/L; 96 h (methyl propyl ketone)</p> <p>Aquatic Invertebrate - Daphnia magna EC50 &gt;110 mg/L; 96 h (methyl propyl ketone) OECD 202</p> <p>Fish - Fathead minnow, Pimephales promelas - fresh water LC50 9640 mg/L; 96 h (Isopropyl alcohol)</p> <p>Aquatic Invertebrate - Crustaceans, Daphnia Magna EC50 3644 mg/L; 48 h (Isopropyl alcohol)</p> <p>Plant - Lettuce seed germination, Lactuca Sativa EC50 2100 mg/L; 72 h (Isopropyl alcohol)</p> <p>Fish - Danio rerio LC50 &gt;179 mg/L; 96h (methyl isobutyl ketone) OECD 203</p> <p>Aquatic Invertebrate - Daphnia magna (static) EC50 1550 mg/L; 48 h (methyl isobutyl ketone) OECD 202</p> <p>Algae - Pseudokirchneriella subcapitata EC50 400 mg/L; 96 h (methyl isobutyl ketone)</p> <p>Fish - Oncorhynchus mykiss - Rainbow trout LC50 5.8 mg/L; 96 h (Toluene)</p> <p>Aquatic Invertebrate - Daphnia magna EC50 5.46-9.83 mg/L; 48 h (Toluene)</p> <p>Fish - Danio rerio LC50 250-350 mg/L; 96 h (Methyl acetate)</p> <p>Aquatic Invertebrate - Daphnia magna (static) EC50 1026 mg/L; 48 h (Methyl acetate)</p> <p>Fish - Oncorhynchus mykiss - Rainbow trout LC50 240 mg/L; 96h (tert-butyl acetate) OECD 203</p> <p>Aquatic Invertebrate - Daphnia magna (static) EC50 350 mg/L; 48h (tert-butyl acetate) OECD 202</p> <p>Fish - Pimephales promelas - Fresh water LC50 220 mg/L; 96h (ethyl acetate)</p> <p>Aquatic Invertebrate - Daphnia magna (static) EC50 560 mg/L; 48h (ethyl acetate)</p> <p>Algea, Pseudokirchneriella subcapitata EC50 579 mg/L; 96h (Nitrocellulose)</p>
<b>Persistence</b>	Contains an or many ingredients that may be persistent in aquatic environment.
<b>Degradability</b>	Methyl propyl ketone (CAS no 107-87-9) has been shown to readily biodegrade at 70% under aerobic and conditions (OCDE TG 301D). Isobutyl acetate is expected to biodegrade in soil and water environments based on 5- and 20- day theoretical biochemical oxygen demands of 60% and 81%, respectively, in fresh water dilution tests (TOXNET). Toluene in air is rapidly decomposed by photochemical processes, mainly through oxidation by hydroxyl free radicals as well as some decomposition by direct photolysis. The half-life time in air is estimated to be from 1 to 2 days. Toluene is Biodegradable (100% in 10 days, OECD 301C). Its Biochemical Oxygen Demand (BOD) is 2150 mg O <sub>2</sub> /L (IUCLID) and its Chemical Oxygen Demand (COD) is 2520 mg O <sub>2</sub> /g (IUCLID). Methyl acetate is ready biodegradable in water, 72% in 20 days (OECD 301D). Tert-Butyl acetate is not readily biodegradable, 49% in 28 days, but may be inherently biodegradable (OECD 301D). Ethyl acetate is readily biodegradable, 94% in 28 days (OECD Guideline 301B). Degradation of Nitrocellulose involves complex dissociation into a wide variety of products. Since it is not soluble in water, the biodegradation by a sludge-soil mixture will be done over a long period of time (TOXNET). Methyl isobutyl ketone is ready biodegradable at 83% in 28 days (OECD Guideline 301F). Isopropyl alcohol is biodegradable, 49% in 5 days and 70% in 20 days (TOXNET). It does not undergo photolysis. Its atmospheric degradation (OH radical attack) in air has a half-time T <sub>1/2</sub> of 18 to 25 hours. The product contains a hydrocarbon mixture of which some ingredients are not readily biodegradable.
<b>Bioaccumulative potential</b>	Methyl propyl ketone (CAS no 107-87-9) is soluble in water and has a low Bioconcentration Factor (BCF) of 3 and a log Kow of 0,93. Methyl propyl ketone is not be expected to accumulate in food chains. Isobutyl acetate is not expected to bioaccumulate based on a bioconcentration factor (BCF) of 7 and a partition coefficient Log Kow of 1.78 (TOXNET). Toluene has Bioconcentration Factor (BCF) in two fish species of 13 and 90, and its partition factor Log Kow of 2,65. These values suggest a low to moderate potential of

	bioaccumulation. Tert-Butyl acetate has a Bioconcentration Factor (BCF) of 7 in fish and a partition factor Log Kow of 1.76, indicating no bioaccumulation in aquatic organisms (TOXNET). Ethyl acetate has a Bioconcentration Factor (BCF) of 3 in fish and a partition factor Log Kow of 0.73, indicating no bioaccumulation in aquatic organisms (TOXNET). Methyl isobutyl ketone is soluble in water and has a low Bioconcentration Factor (BCF) of 2 and a log Kow of 1,31. Methyl isobutyl ketone is not be expected to accumulate in food chains. The Log Kow value <0.4 and bioconcentration factor (BCF) value <1 for isopropyl alcohol show no potential to bioaccumulate (IUCLID). The product contains a hydrocarbon mixture of which some ingredients have different bioaccumulation potentials.
<b>Mobility in soil</b>	Methyl propyl ketone (CAS no 107-87-9) can be volatilized from moist soil surfaces (SRC). The estimated Koc value of 75 indicates that it is expected to have high mobility in soil. Isobutyl acetate is expected to have very high mobility in water based on an estimated Koc of 16 (TOXNET). Toluene will rapidly evaporate into the atmosphere because of its low soil absorption and its low solubility in water. Its Koc values range from 37 to 178 in a sandy soil suggest that toluene is expected to have high to moderate mobility in soil (TOXNET Data). The Koc value of tert-butyl acetate can be estimated to be 12, suggesting that it is expected to have very high mobility in soil. The Koc value of ethyl acetate can be estimated to be 18, suggesting that it is expected to have very high mobility in soil (TOXNET). Methyl isobutyl ketone can be volatilized from moist soil surfaces (SRC). The estimated Koc value of 120 indicates that it is expected to have high mobility in soil. Isopropyl alcohol is soluble in water and will quickly evaporate into the air. There is no partition in the ground. The product contains a hydrocarbon mixture of which some ingredients can evaporate into the air while others present a medium to low mobility in soil.
<b>Other adverse effects</b>	This chemical does not deplete the ozone layer.

### 13. Disposal considerations

	Important! Prevent waste generation. Use in full. DO NOT dispose of residue in sewers, streams or drinking water supply. DO NOT puncture or burn even after use. Paint residues, including lacquers, stains, shellac, varnish, solvents and paint thinners, can be reprocessed (recycle) anywhere there is a recovery program. Dispose via a licensed waste disposal contractor. Observe all federal, state/provincial and municipal regulations. If necessary consult the Department of Environment or the relevant authorities.
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### 14. Transport information

<b>UN Number</b>	UN 1263
<b>UN Proper Shipping Name</b>	PAINT
<b>Environmental hazards</b>	This material does not contain marine pollutant.
<b>Special precautions for user</b>	Permit required for transportation with proper placards displayed on vehicle.
<b>TDG - Transportation of Dangerous Goods (Canada)</b>	
<b>Transport hazard class(es)</b>	 Class 3
<b>Packing group</b>	II
<b>IMO/IMDG - International Maritime Transport</b>	
<b>Classification</b>	UN 1263. PAINT. Class 3, PG II. Emergency schedules (EmS-No) F-E, S-E
<b>IATA - International Air Transport Association</b>	
<b>Classification</b>	UN 1263. PAINT. Class 3, PG II.

## 15. Regulatory information

### CANADA

Common name	CAS	CEPA	DSL	NDSL	NPRI
Methyl Propyl Ketone	107-87-9		X		
Isobutyl acetate	110-19-0		X		
Methyl acetate	79-20-9		X		
tert-Butyl acetate	540-88-5		X		
Ethyl Acetate	141-78-6	X	X		X
Toluene	108-88-3	X	X		X
Distillates (petroleum), light distillate hydrotreating process, low-boiling	68410-97-9		X		
Synthetic Amorphous Fumed Silica	112945-52-5		X		
Nitrocellulose	9004-70-0		X		
Methyl isobutyl ketone	108-10-1	X	X		X
Isopropyl alcohol	67-63-0	X	X		X
Solvent naphtha (petroleum), light aromatic (C8 to C10)	64742-95-6	X	X		X

- CEPA: List of Toxic Substances Managed Under Canadian Environmental Protection Act
- DSL: Domestic Substances List Inventory
- NDSL: Non-Domestic Substances List Inventory
- NPRI: National Pollutant Release Inventory Substances

### UNITED STATE OF AMERICA

Common name	CAS	TSCA	CERCLA	EPCRA 313	EPCRA 302/304	CAA 112(b) HON	CAA 112(b) HAP	CAA 112(r)	CWA 311	CWA Priority
Methyl Propyl Ketone	107-87-9	X								
Isobutyl acetate	110-19-0	X	X							
Methyl acetate	79-20-9	X				X				
tert-Butyl acetate	540-88-5	X	X							
Ethyl Acetate	141-78-6	X	X							
Toluene	108-88-3	X	X	X		X	X		X	X
Distillates (petroleum), light distillate hydrotreating process, low-boiling	68410-97-9	X								
Synthetic Amorphous Fumed Silica	112945-52-5	X								
Nitrocellulose	9004-70-0	X								
Methyl isobutyl ketone	108-10-1	X	X	X		X	X			
Isopropyl alcohol	67-63-0	X		X					X	
Solvent naphtha (petroleum), light aromatic (C8 to C10)	64742-95-6	X								

- TSCA: Toxic Substance Control Act
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act list of hazardous substances
- EPCRA 313: Emergency Planning and Community Right-to-Know Act, Section 313 Toxic Chemicals
- EPCRA 302/304: Emergency Planning and Community Right-to-Know Act, Section 302/304 Extremely Hazardous Substances
- CAA 112(b) HON: Clean Air Act - Hazardous Organic National Emission Standard for Hazardous Air Pollutant
- CAA 112(b) HAP: Clean Air Act - Hazardous Air Pollutants lists pollutants
- CAA 112(r): Clean Air Act - Regulated Chemicals for Accidental Release Prevention
- CWA 311: Clean Water Act - List of Hazardous Substances
- CWA Priority: Clean Water Act - Priority Pollutant list

## California Proposition 65

Common name	CAS	Cancer	Reproductive and Developmental Toxicity
Toluene	108-88-3		X
Methyl isobutyl ketone	108-10-1	X	X

### Other regulations

#### WHMIS 1988



B2 D2A D2B

Class B2 : Flammable Liquid

Class D2A : Very toxic material causing other toxic effects

Class D2B : Toxic material causing other toxic effects

#### HMIS



#### NFPA



## 16. Other information

<b>Date</b> (YYYY-MM-DD)	GEMINI INDUSTRIES, INC. 2016-03-24
<b>Version</b>	01
<b>Other information</b>	<p>- This SDS and the GHS hazards classification is a French translation of the original English version (SDS) from the manufacturer.</p> <p>REFERENCES:</p> <ul style="list-style-type: none"> <li>- Haz-Map, Information on Hazardous Chemicals and Occupational Diseases, <a href="http://hazmap.nlm.nih.gov/index.php">http://hazmap.nlm.nih.gov/index.php</a></li> <li>- TOXNET Databases, Toxicology Data Network, NIH U.S. National Library of Medicine, <a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a></li> <li>- Service du répertoire toxicologique de la Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), <a href="http://www.reptox.csst.qc.ca">http://www.reptox.csst.qc.ca</a></li> <li>- NIOSH Pocket Guide to Chemical Hazards, Centers for Disease Control and Prevention, NIOSH Publications, 2007, <a href="http://www.cdc.gov/niosh/npg/npg.html">http://www.cdc.gov/niosh/npg/npg.html</a></li> <li>- IPCS INCHEM, Chemical Safety Information from Intergovernmental Organizations, Canadian Centre for Occupational Health and Safety (CCOHS), Copyright International Programme on Chemical Safety (IPCS), <a href="http://www.inchem.org">http://www.inchem.org</a></li> <li>- OECD Existing Chemicals Database, Chemicals Screening Information DataSet (SIDS) for High Volume Chemicals, UNEP publications, <a href="http://webnet.oecd.org/HPV/UI/Search.aspx">http://webnet.oecd.org/HPV/UI/Search.aspx</a></li> </ul> <p>ACGIH: American Conference of Governmental Industrial Hygienists            AIHA: American Industrial Hygiene Association            HMIS: Hazardous Materials Identification System            NFPA: National Fire Protection Association            OSHA: Occupational Safety and Health Administration (USA)            NIOSH: National Institute for Occupational Safety and Health            NTP: National Toxicology Program            RSST: Règlement sur la santé et la sécurité du travail (Québec)            GHS: Globally Harmonized System</p>

IARC: International Agency for Research on Cancer  
IDLH: Immediately Dangerous to Life or Health  
STEL: Short Term Exposure Limit (15 min)  
TWA: Time Weighted Averages  
WHMIS: Workplace Hazardous Materials Information System

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