

CHO-BOND® 1086 RTV Primer Coat

SDS No: PHC-035

SDS Revision Date (mm/dd/yyyy): 08/01/2018

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **CHO-BOND® 1086 RTV Primer Coat**

Product Code(s)

: CHO-BOND 1086 Primer (also used for: 72-00151, 72-00152, 72-00350, 72-00355, 72-00352)
50-01-1086-0000; 50-01-1086-0000E; 50-04-1086-0000; 50-10-1086-0000

Recommended use of the chemical and restrictions on use

: Primer coating.
No restrictions on use known.

Chemical family

: Mixture of: Petroleum distillates; Hydrocarbons; silane compounds; Alcohols; Esters

SDS number

: PHC-035

Name, address, and telephone number of the supplier:

Parker Hannifin Corp.

Chomerics Division
77 Dragon Court
Woburn, MA, USA
01888

Supplier's Telephone #

: (781) 935-4580

24 Hr. Emergency Tel #

: INFOTRAC: (800) 535-5053 (Within Continental US and Canada); (352)323-3500 (International)

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Colorless to pale yellow liquid. Solvent odor.

Most important hazards:

Highly flammable liquid and vapor. This material may be ignited by heat, sparks and direct flame. Aspiration hazard. May be fatal if swallowed and enters airways. Causes serious eye damage. Causes skin irritation. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. Harmful to aquatic life. Avoid release to the environment. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:

Flammable liquid - Category 2

Aspiration toxicity - Category 1

Skin corrosion/irritation - Category 2

Eye damage/irritation - Category 1

Reproductive toxicity - Category 2

Specific target organ toxicity, single exposure - Category 3 (Narcotic effects)

Specific target organ toxicity, repeated exposure - Category 2

Label elements

Hazard pictogram(s)



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Signal Word

DANGER!

Hazard statement(s)

Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye damage. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe vapor. Wash exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection.

IF exposed or concerned: Get medical advice/attention.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

In case of fire, use dry chemical, CO₂, or alcohol foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. May slowly hydrolyze in the presence of water to: Propan-1-ol; Butan-1-ol. Mild respiratory irritant. May cause gastrointestinal irritation. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Solvent naphtha (petroleum), light aliphatic	Naphtha	64742-89-8	45.0 - 70.0
Toluene	Methylbenzene Phenylmethane	108-88-3	10.0 - 30.0
Tetrakis(2-butoxyethyl)orthosilicate	Silicic acid (H ₄ SiO ₄), tetrakis(2-butoxyethyl) ester	18765-38-3	1.0 - 5.0
Titanium tetrabutanolate	Butyl titanate Tetrabutoxytitanium	5593-70-4	1.0 - 5.0
n-Butyl alcohol	n-Butanol 1-Hydroxybutane	71-36-3	1.0 - 5.0
Possible decomposition products in case of hydrolysis are:			
n-propanol	n-Propyl alcohol Ethyl carbinol Hydroxypropane	71-23-8	Not known.

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

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SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
- Inhalation* : If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash it before reuse.
- Eye contact* : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

- : Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause irreversible eye damage.
- : Causes skin irritation. Contact may cause redness, swelling and a painful sensation.
- : May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.
- : Suspected of damaging the unborn child. Symptoms in offspring may include reduced fetal weight, behavioral effects, delayed skeletal formation and hearing loss.
- : May cause headache, nausea, dizziness and other symptoms of central nervous system depression.
- : May cause damage to organs through prolonged or repeated exposure. Contains: Toluene.
- : Toluene may cause damage to the brain and nervous system through prolonged or repeated exposure, if inhaled.
- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- : Mild respiratory irritant. May cause coughing and breathing difficulties.
- : Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Causes serious eye damage. Aspiration hazard. Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media* : Carbon dioxide (CO₂); Dry chemical; Alcohol resistant foam.
- Unsuitable extinguishing media* : May react with water.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Highly flammable liquid and vapor. This material may be ignited by heat, sparks and direct flame. Vapors may be heavier than air and may collect in confined and low-lying areas. Vapors may travel considerable distance to a source of ignition and flash back. May slowly hydrolyze in the presence of water to: n-propanol; n-Butyl alcohol. Upon completion of the curing process, these hydrolysis products are no longer released. The product is insoluble and floats on water. Toxic fumes, gases or vapors may evolve on burning. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable liquid - Category 2

Hazardous combustion products

- : Carbon oxides; Aldehydes; Hydrocarbons; Other unidentified organic compounds

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Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control. Do not get water inside containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Wear appropriate protective equipment. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil. Avoid release to the environment. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools. For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Do not use combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): Toluene (1000 lbs / 454 kg); n-Butyl alcohol (5000 lbs / 2270 kg)

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe vapor. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks and open flame. - No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapor) and can be dangerous.

Conditions for safe storage

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep away from incompatibles.

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Incompatible materials : Strong oxidizing agents; Strong acids; Water

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:			
Chemical Name	ACGIH TLV		OSHA PEL
	TWA	STEL	PEL STEL
Solvent naphtha (petroleum), light aliphatic	N/Av	N/Av	500 ppm (2000 mg/m ³) (as petroleum distillates, naphtha) N/Av
Toluene	20 ppm	N/Av	200 ppm 300 ppm (Ceiling)
Tetrakis(2-butoxyethyl)orthosilicate	N/Av	N/Av	N/Av N/Av
Titanium tetrabutanolate	N/Av	N/Av	N/Av N/Av
n-Butyl alcohol	20 ppm	N/Av	100 ppm (300 mg/m ³) N/Av
n-propanol	100 ppm	N/Av	200 ppm (500 mg/m ³) N/Av

ACGIH - Biological Exposure Indices:

Toluene (CAS # 108-88-3)

0.02 mg/L, Medium: Blood, Parameter: Toluene

0.03 mg/L, Medium: Urine, Parameter: Toluene

0.3 mg/g Creatinine, Medium: Urine, Parameter: o-Cresol with hydrolysis (background)

Exposure controls

Ventilation and engineering measures

- : Use only outdoors or in a well-ventilated area. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof electrical and ventilating equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

- : Wear protective gloves/clothing. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear resistant clothing and boots.

Eye / face protection

- : Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Do not breathe vapor. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Colorless to pale yellow liquid.
Odor	: Solvent odor.
Odor threshold	: N/Av
pH	: N/Av
Melting/Freezing point	: N/Av
Initial boiling point and boiling range	
	: > 65°C (149°F)
Flash point	: 6°C (42.8°F)
Flashpoint (Method)	: Tag closed cup
Evaporation rate (BuAe = 1)	: N/Av
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by vol.)	
	: N/Av
Upper flammable limit (% by vol.)	
	: N/Av
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Vapor pressure	: N/Av
Vapor density	: N/Av
Relative density / Specific gravity	
	: 0.8
Solubility in water	: insoluble. May react with water.
Other solubility(ies)	: N/Av
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	
	: N/Av
Auto-ignition temperature	: N/Av
Decomposition temperature	: N/Av
Viscosity	: 1 mm ² /sec @ 25°C (77°F)
Volatiles (% by weight)	: N/Av
Volatile organic Compounds (VOC's)	
	: N/Av
Absolute pressure of container	
	: N/Av
Flame projection length	: N/Av
Other physical/chemical comments	
	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive. May slowly hydrolyze in the presence of water to: n-propanol; n-Butyl alcohol. Upon completion of the curing process, these hydrolysis products are no longer released.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	
	: Hazardous polymerization does not occur.
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	: Strong oxidizing agents; Strong acids; Water

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Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Mild respiratory irritant. May cause coughing and breathing difficulties. Inhalation of high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects.

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Material is an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin

: Causes skin irritation. Contact may cause redness, swelling and a painful sensation. Can be absorbed through skin.

Sign and symptoms eyes

: Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling and blurred vision. May cause irreversible eye damage.

Potential Chronic Health Effects

: Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Mutagenicity

: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

: Not classifiable as a human carcinogen, based on currently available data. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Reproductive toxicity - Category 2. Suspected of damaging the unborn child.
Contains Toluene. Toluene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data. Symptoms in offspring may include reduced fetal weight, behavioral effects, delayed skeletal formation and hearing loss.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Specific target organ toxicity, single exposure - Category 3. May cause drowsiness or dizziness.

Specific target organ toxicity, repeated exposure - Category 2. May cause damage to organs through prolonged or repeated exposure. Contains: Toluene. Toluene may cause damage to the brain and nervous system through prolonged or repeated exposure, if inhaled.

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Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials

: None known or reported by the manufacturer.

Toxicological data

: Not classified for acute toxicity based on available data.

No data is available on the product itself. The calculated ATE values for this mixture are:

ATE oral = 15,563 mg/kg

ATE dermal = 41,270 mg/kg

ATE inhalation (vapors) = 25.1 - 33.3 mg/L/4H

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀ (4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Solvent naphtha (petroleum), light aliphatic	> 23 mg/L (vapor)	> 8000 mg/kg	> 4000 mg/kg
Toluene	7585 ppm (28.1 mg/L) (vapor)	5580 mg/kg	12 125 mg/kg
Tetrakis(2-butoxyethyl)orthosilicate	N/Av	> 2000 mg/kg	> 2000 mg/kg
Titanium tetrabutanolate	N/Av	3122 mg/kg	5300 mg/kg
n-Butyl alcohol	8000 ppm (24.3 mg/L) (vapor)	790 - 4360 mg/kg	3402 mg/kg
Possible decomposition products in case of hydrolysis are:			
n-propanol	> 13 548 ppm (33.8 mg/L) (vapor) (No mortality)	1870 mg/kg	4050 mg/kg

Other important toxicological hazards

: May slowly hydrolyze in the presence of water to: n-propanol; n-Butyl alcohol.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Harmful to aquatic life. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. This product contains the following substance which may also be hazardous for the environment: Solvent naphtha (petroleum), light aliphatic; Toluene.

See the following tables for individual ingredient ecotoxicity data.

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Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Solvent naphtha (petroleum), light aliphatic	64742-89-8	8.2 mg/L (Fathead minnow)	N/Av	None.
Toluene	108-88-3	5.4 mg/L (pink salmon)	1.4 - 4.0 mg/L	None.
Tetrakis(2-butoxyethyl)orthosilicate	18765-38-3	> 201 mg/L (Zebra fish)	N/Av	None.
Titanium tetrabutanolate	5593-70-4	1825 mg/L	N/Av	None.
n-Butyl alcohol	71-36-3	1376 mg/L (Fathead minnow)	N/Av	None.
n-propanol	71-23-8	4555 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Solvent naphtha (petroleum), light aliphatic	64742-89-8	32 mg/L (Daphnia magna)	2.6 mg/L	None.
Toluene	108-88-3	3.78 mg/L Ceriodaphnia (water flea)	0.53 - 1 mg/L	None.
Tetrakis(2-butoxyethyl)orthosilicate	18765-38-3	> 90 mg/L (Daphnia magna)	N/Av	None.
Titanium tetrabutanolate	5593-70-4	1300 mg/L (Daphnia magna)	4 mg/L	None.
n-Butyl alcohol	71-36-3	1328 mg/L (Daphnia magna)	4.1 mg/L	None.
n-propanol	71-23-8	3644 mg/L (Daphnia magna)	> 100 mg/L	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Solvent naphtha (petroleum), light aliphatic	64742-89-8	45 mg/L/96hr (Green algae)	18 mg/L/96hr NOEL	None.
Toluene	108-88-3	N/Av	10 mg/L/72hr (Green algae)	None.
Tetrakis(2-butoxyethyl)orthosilicate	18765-38-3	> 161 mg/L/72hr (Green algae)	N/Av	None.
Titanium tetrabutanolate	5593-70-4	225 mg/L/96hr (Green algae)	N/Av	None.
n-Butyl alcohol	71-36-3	225 mg/L/96hr (Green algae)	129 mg/L/96hr	None.
n-propanol	71-23-8	N/Av	N/Av	None.

Persistence and degradability : The product itself has not been tested.

The following ingredients are considered to be readily biodegradable: Toluene; Solvent naphtha (petroleum), light aliphatic; Tetrakis(2-butoxyethyl)orthosilicate; Titanium tetrabutanolate; n-Butyl alcohol.

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Bioaccumulation potential : The product itself has not been tested. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Solvent naphtha (petroleum), light aliphatic (CAS 64742-89-8)	2.1 - 6	129 - 576
Toluene (CAS 108-88-3)	2.65	90
Titanium tetrabutanolate (CAS 5593-70-4)	0.84	N/Av
n-Butyl alcohol (CAS 71-36-3)	0.88	3.0
n-propanol (CAS 71-23-8)	1.6	3

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Empty containers retain residue (liquid and/or vapor) and can be dangerous. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

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

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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1993	Flammable Liquids, n.o.s. [Solvent naphtha (petroleum), light aliphatic; Toluene]	3	II	
49CFR/DOT Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.150.				
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. [Solvent naphtha (petroleum), light aliphatic; Toluene]	3	II	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDG, refer to Section 1.17 for additional exemption requirements, if shipping under this exemption.				
ICAO/IATA	UN1993	Flammable liquid, n.o.s. [Solvent naphtha (petroleum), light aliphatic; Toluene]	3	II	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.				
IMDG	UN1993	FLAMMABLE LIQUID, N.O.S. [Solvent naphtha (petroleum), light aliphatic; Toluene]	3	II	
IMDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass.				

Special precautions for user : Appropriate advice on safety must accompany the package. Keep away from heat, sparks and open flame. - No smoking. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Solvent naphtha (petroleum), light aliphatic	64742-89-8	Yes	None.	None.	No	N/Ap
Toluene	108-88-3	Yes	1000 lb/ 454 kg	None.	Yes	1%
Tetrakis(2-butoxyethyl)orthosilicate	18765-38-3	Yes	None.	None.	No	N/Ap
Titanium tetrabutanolate	5593-70-4	Yes	None.	None.	No	N/Ap
n-Butyl alcohol	71-36-3	Yes	5000 lb/ 2270 kg	None.	Yes	1%
n-propanol	71-23-8	Yes	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:

Physical hazards (Flammable liquid);

Health hazards (Aspiration hazard; Skin irritation; Eye Damage; Reproductive toxicity; Specific target organ toxicity, single exposure; Specific target organ toxicity, repeated exposure)

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Solvent naphtha (petroleum), light aliphatic	64742-89-8	No	N/Ap	No	No	No	No	No	No
Toluene	108-88-3	Yes	Developmental	Yes	Yes	Yes	Yes	Yes	Yes
Tetrakis(2-butoxyethyl)orthosilicate	18765-38-3	No	N/Ap	No	No	No	No	No	No
Titanium tetrabutanolate	5593-70-4	No	N/Ap	No	No	No	No	No	No
n-Butyl alcohol	71-36-3	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
n-propanol	71-23-8	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

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Canadian Information:

Canadian Environmental Protection Act (CEPA): The following ingredient(s) is listed on the NDSL:
Tetrakis(2-butoxyethyl)orthosilicate. All other ingredients are listed on the Domestic Substances List.

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI:

Solvent naphtha (petroleum), light aliphatic (Part 5: Other groups and mixtures)
Toluene (Part 1, Group A Substance; Part 5: Individual Substances)
n-Butyl alcohol (Part 1, Group A Substance)

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
Solvent naphtha (petroleum), light aliphatic	64742-89-8	265-192-2	Present	Present	Not listed	KE-31661	Present	May be used as a single component chemical under an appropriate group standard.
Toluene	108-88-3	203-625-9	Present	Present	(3)-2	KE-33936	Present	HSR001227
Tetrakis(2-butoxyethyl)orthosilicate	18765-38-3	242-560-0	Not listed	Present	(2)-2049	Not listed	Present	May be used as a component in a product covered by a group standard, but is not approved for use as a chemical in its own right.
Titanium tetrabutanolatate	5593-70-4	227-006-8	Present	Present	(9)-2613; (2)-228; (2)-2150	KE-03875	Present	HSR003611
n-Butyl alcohol	71-36-3	200-751-6	Present	Present	(2)-3049	KE-03867	Present	HSR001096
n-propanol	71-23-8	200-746-9	Present	Present	(2)-207	KE-29362	Present	HSR001215

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
EC50: Effective Concentration 50%
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container

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ICAO: International Civil Aviation Organisation
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
IOC: Inventory of Chemicals
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NDSL = Non-Domestic Substances List
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
PA: Pennsylvania
PICCS: Philippine Inventory of Chemicals and Chemical Substances
QSAR: Quantitative structure-activity relationship
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2018.
- 2. International Agency for Research on Cancer Monographs, searched 2018.
- 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2018 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheets from manufacturer.
- 5. US EPA Title III List of Lists - March 2015 version.
- 6. California Proposition 65 List - May 25, 2018 version.
- 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2018.

Preparation Date (mm/dd/yyyy)

: 05/02/2017

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: 01/08/2018

Revision No.

: 2

Revision Information

- : (M)SDS sections updated:
 - 3. COMPOSITION/INFORMATION ON INGREDIENTS (Concentration);
 - 15. REGULATORY INFORMATION (California Prop. 65)

Other special considerations for handling

- : Provide adequate information, instruction and training for operators.



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