



Parker Hannifin Corp.
Chemetics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4550

CHO-BOND® 1030

SDS Preparation Date (mm/dd/yyyy): 05/02/2017

50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000
Page 3 of 14

SAFETY DATA SHEET

- Skin contact**
- : For skin contact, wash with soap and water while removing contaminated clothing. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
 - : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 15 minutes. If eye irritation persists: get medical advice/attention.
- Most important symptoms and effects, both acute and delayed**
- : Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
 - : Suspected of causing cancer if inhaled. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing.
 - : May be mildly irritating to skin and respiratory system. May cause coughing and breathing difficulties. Direct skin contact may cause temporary redness.
 - : Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.
 - : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
 - : Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.
 - : Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

May slowly hydrolyze in the presence of water to: Methanol. Upon completion of the curing process, these hydrolysis products are no longer released.

When heated above 150°C in air, may release formaldehyde gas. Formaldehyde is an eye contact, irritant and acute toxicant. Formaldehyde may cause sensitization by skin contact. Formaldehyde may cause mutations to non-reproductive (somatic) cells, based on animal data. Formaldehyde is classified as carcinogenic.

Indication of any immediate medical attention and special treatment needed

- : 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. Do not use water if possible.

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

- : Not classified as flammable. However, may burn if exposed to extreme heat and flame. May react with water, generating heat. May slowly hydrolyze in the presence of water to: Methanol. Upon completion of the curing process, these hydrolysis products are no longer released. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes, gases or vapors may evolve on burning.

Flammability classification (OSHA 29 CFR 1910.105)

- : Not classified as flammable.

Hazardous combustion products

- : Carbon oxides; Metal oxides; formaldehyde; Silicon oxides; Other unidentified organic compounds

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.



CHO-BOND® 1030

SDS Preparation Date (mm/dd/yyyy): 05/02/2017

50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000
Page 4 of 14

SAFETY DATA SHEET

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 get water inside containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

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 inert, non-combustible absorbents to absorb the spill or leak. 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): Copper (5000 lbs / 2270 kg); silver (1000 lbs / 454 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 with adequate ventilation. Wear suitable protective equipment during handling. Wear protective gloves/protective clothing and eye/face protection. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Protect from moisture. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue and can be dangerous.

Conditions for safe storage

- : Store in cool/dry-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. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep away from incompatibles.

Incompatible materials

- : Strong oxidizing agents; Strong acids; Strong bases; Water

SAFETY DATA SHEET

SECTION 5: EXPOSURE CONTROLS / PERSONAL PROTECTION				
Exposure Limits:	ACGIH TLV		OSHA PEL	
Chemical Name	TWA	STEL	PEL	STEL
Copper	0.2 mg/m ³ (dust and mist)	NAV	0.1 mg/m ³ (dust and mist)	NAV
Polydimethylsiloxane oil	NAV	NAV	NAV	NAV
Trimethylsiloxane	0.1 mg/m ³ (dust and mist)	NAV	0.01 mg/m ³	NAV
Titanium dioxide	10 mg/m ³	NAV	15 mg/m ³ (total dust)	NAV
Methanol	200 ppm (skin)	250 ppm (skin)	200 ppm (260 mg/m ³)	NAV
Formaldehyde	0.3 ppm (Ceiling)	NAV	0.75 ppm	3 ppm

ACGIH - Biological Exposure Indices:

Methanol (CAS # 67-56-1)
15 mg/L, Medium: Urine, Parameter: Methanol (background, nonspecific)

Exposure controls

Ventilation and engineering measures

- Provide adequate ventilation. 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. In case of insufficient ventilation wear suitable respiratory equipment.
- 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. Depending on conditions of use, an impervious apron should be worn.

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

- Avoid breathing dust, fume or vapors. 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Medium paste, light grey
- Odor : Mild odor.
- Odor threshold : NAV
- pH : NAV
- Melting/freezing point : NAV

SAFETY DATA SHEET

- Initial boiling point and boiling range : > 102°C (216°F) (based on ingredients)
- Flash point : > 63.3°C (200°F) (based on ingredients)
- Flashpoint (Method) : closed cup
- Evaporation rate (BuA = 1) : NAV
- Flammability (solid, gas) : Not considered flammable.
- Lower flammable limit (% by vol.) : NAV
- Upper flammable limit (% by vol.) : NAV
- Oxidizing properties : None known.
- Explosive properties : Not explosive
- Vapor pressure : NAV
- Vapor density : NAV
- Relative density / Specific gravity : > 1
- Solubility in water : Insoluble. May react with water.
- Other solubility(ies) : NAV
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution : NAV
- Auto-ignition temperature : NAV
- Decomposition temperature : NAV
- Viscosity : NAV
- Volatiles (% by weight) : NAV
- Volatile organic Compounds (VOC's) : NAV
- Absolute pressure of container : N/Ap
- Flame projection length : N/Ap
- Other physical/chemical comments : No additional information.

SECTION 10: STABILITY AND REACTIVITY

- Reactivity : May react with water. May slowly polymerize in the presence of water to: Methanol. Upon completion of the curing process, these hydrolysis products are no longer released.
- Chemical stability : Stable under normal conditions. When heated above 150°C in air, may release formaldehyde gas.
- 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. Avoid excessive moisture.
- Incompatible materials : Strong oxidizing agents; Strong acids; Strong bases; Water
- 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



Parker Hannifin Corp.
Chimerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4560

CHO-BOND® 1030

SDS Preparation Date (mm/dd/yyyy): 05/02/2017

50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000

Page 7 of 14

SAFETY DATA SHEET

Routes of entry skin & eye : YES
Routes of entry ingestion : YES
Routes of exposure skin absorption : NO

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 fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.

Sign and symptoms Ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
: May cause mild skin irritation. Direct skin contact may cause temporary redness.
: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling and blurred vision.

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.
: Avoid heating, which will result in the liberation of formaldehyde gas. Formaldehyde may cause mutations to non-reproductive (somatic) cells, based on animal data.

Carcinogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazard 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Carcinogenicity - Category 2. Suspected of causing cancer.
Contains: titanium dioxide. Titanium dioxide is classified as possibly carcinogenic by IARC (Group 2B). Titanium dioxide is suspected of causing cancer by inhalation. The carcinogenic hazard is applicable when dusts are present.
: Avoid heating, which will result in the liberation of formaldehyde gas. Formaldehyde is classified as carcinogenic.
See below for ingredients present on regulatory lists.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.
: Avoid heating, which will result in the liberation of formaldehyde gas. Formaldehyde may cause sensitization by skin contact.

Specific target organ effects

: According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synesthetic materials

: None known or reported by the manufacturer.

Toxicological data

: Not classified for acute toxicity based on available data.
: The calculated ATE values for this mixture are:
ATE dermal = 3278 mg/kg

See below for individual ingredient acute toxicity data.



Parker Hannifin Corp.
Chimerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4560

CHO-BOND® 1030

SDS Preparation Date (mm/dd/yyyy): 05/02/2017

50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000

Page 8 of 14

SAFETY DATA SHEET

Chemical name	LC ₅₀ (4hr) [Inh. rat]	LD ₅₀ [Oral, rat]	LD ₅₀ [Rabbit, dermal]
Copper	> 5.11 mg/L (dust) (No mortality)	> 2500 mg/kg	> 2000 mg/kg
Polydimethylsiloxane silver	> 11.59 mg/L (mist)	> 15 400 mg/kg	> 2000 mg/kg
	> 5.16 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	> 2000 mg/kg (No mortality)
Tinethoxydimethylsilane	> 51.4 mg/L (vapor)	> 5500 mg/kg	> 9500 mg/kg
titanium dioxide	> 6.82 mg/kg (dust) (No mortality)	> 25 000 mg/kg	> 10 000 mg/kg
Possible decomposition products in case of hydrolysis are: -> 5000 ppmvH ₂ (4.1 mg/L/H ₂ (vapor)		5628 mg/kg (rat) The estimated human lethal dose is: 300 - 1000 mg/kg	> 393 mg/kg (Monkey) 15 600 mg/kg (rabbit)
The following ingredient may be released from the product only when heated above 150°C: formaldehyde	237 ppm	The estimated human lethal dose is: 317 - 475 mg/kg	300 mg/kg

Other important toxicological hazards

: Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyria in case of inhalation.
: May slowly hydrolyze in the presence of water to: Methanol. Upon completion of the curing process, these hydrolysis products are no longer released.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

: 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. May slowly hydrolyze in the presence of water to: Methanol. Upon completion of the curing process, these hydrolysis products are no longer released.
: This product also contains: Copper. The acute toxicity of copper to aquatic species varies greatly by the chemical form and correlates with the availability of free ionic copper. Aquatic toxicity is highly variable not only by organism but with physical and chemical characteristics of the water itself.

See the following tables for individual ingredient ecotoxicity data.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4590

CHO-BOND® 1030
SDS Preparation Date (mm/dd/yyyy): 05/02/2017
50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000
Page 8 of 14

SAFETY DATA SHEET

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish			M Factor
		LC50 / 96h	NOEC / 21 day		
Copper	7440-50-8	N/A	N/A		None.
Polydimethylsiloxane	70131-67-8	N/A	N/A		None.
silver	7440-22-4	N/A	N/A		None.
Trimethoxymethylsilane	1185-56-3	> 110 mg/L (Rainbow trout) (hydrolysis product and/or parent compound)	N/A		None.
titanium dioxide	13463-67-7	> 100 mg/L (Japanese medaka)	N/A		None.
Methanol	67-56-1	15 400 mg/L (Bluegill sunfish)	448.7 mg/L/28-day (Fethead mussel) (QSAR)		None.
formaldehyde	50-00-0	6.7 mg/L (Striped bass)	2.48 mg/L/28-day (Japanese medaka)		None.

Ingredients	CAS No	Toxicity to Daphnia			M Factor
		EC50 / 48h	NOEC / 21 day		
Copper	7440-50-8	N/A	N/A		None.
Polydimethylsiloxane	70131-67-8	N/A	N/A		None.
silver	7440-22-4	N/A	N/A		None.
Trimethoxymethylsilane	1185-56-3	> 122 mg/L (Daphnia magna) (hydrolysis product and/or parent compound)	N/A		None.
titanium dioxide	13463-67-7	> 100 mg/L (Daphnia magna)	N/A		None.
Methanol	67-56-1	> 10 000 mg/L (Daphnia magna)	208 mg/L (QSAR)		None.
formaldehyde	50-00-0	5.8 mg/L (Daphnia magna)	N/A		None.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4590

CHO-BOND® 1030
SDS Preparation Date (mm/dd/yyyy): 05/02/2017
50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000
Page 10 of 14

SAFETY DATA SHEET

Ingredients	CAS No	Toxicity to Algae			M Factor
		EC50 / 96h or 72h	NOEC / 96h or 72h		
Copper	7440-50-8	N/A	N/A		None.
Polydimethylsiloxane	70131-67-8	N/A	N/A		None.
silver	7440-22-4	N/A	N/A		None.
Trimethoxymethylsilane	1185-56-3	> 120 mg/L/72hr (Green algae) (hydrolysis product and/or parent compound)	120 mg/L/72hr (hydrolysis product and/or parent compound)		None.
titanium dioxide	13463-67-7	> 100 mg/L/72hr (Green algae)	N/A		None.
Methanol	67-56-1	22 000 mg/L/96hr (Green algae)	N/A		None.
formaldehyde	50-00-0	14.7 mg/L/24hr (Green algae)	N/A		None.

Persistence and degradability

- The product itself has not been tested.
- The following ingredients are considered to be readily biodegradable: Methanol.
- Contains the following chemicals which are not readily biodegradable: Copper; silver;
- Trimethoxymethylsilane; titanium dioxide.
- The product itself has not been tested. See the following data for ingredient information.

Bioaccumulation potential

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Trimethoxymethylsilane (CAS 1185-56-3)	- 0.67	3.16
Methanol (CAS 67-56-1)	- 0.82 to - 0.84	< 10 (common carp)
formaldehyde (CAS 50-00-0)	0.35	3.0

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 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.



Parker Hannifin Corp.
Chemerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4500

CHO-BOND® 1030
SDS Preparation Date (mm/dd/yyyy): 05/02/2017
Page 11 of 14

SAFETY DATA SHEET

SECTION 14: TRANSPORTATION INFORMATION				
Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group Label
49CFR/DOT	None.	Not regulated.	not regulated	none
49CFR/DOT Additional Information	None.			
TDG	None.	Not regulated.	not regulated	none
TDG Additional Information	None.			
ICAO/IATA	None.	Not regulated.	not regulated	none
ICAO/IATA Additional Information	None.			
IMDG	None.	Not regulated.	not regulated	none
IMDG Additional Information	None.			

Special precautions for user : Appropriate advice on safety must accompany the package. 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.



Parker Hannifin Corp.
Chemerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935-4500

CHO-BOND® 1030
SDS Preparation Date (mm/dd/yyyy): 05/02/2017
Page 12 of 14

SAFETY DATA SHEET

SECTION 15: REGULATORY INFORMATION				
US Federal Information:				
Components listed below are present on the following U.S. Federal chemical lists:				
Inventories	CAS #	TSCA Inventory	CERCLA Reportable Quantity (lb) (40 CFR 117.302)	SARA TITLE III, Sec. 311, 40 CFR 372, Specific Toxic Chemical Toxic Chemical as minimum Concentration
Copper	7440-50-8	Yes	5000 lb / 2270 kg	Yes
Polydimethylsiloxane	70131-47-8	Yes	1000 lb / 454 kg	Yes
Silver	7440-22-4	Yes	1000 lb / 454 kg	Yes
Trimethylmethylsilane	1185-55-3	Yes	None.	Yes
Diamine dioxide	13403-87-7	Yes	None.	Yes
Methanol	67-56-1	Yes	5000 lb / 2270 kg	Yes
Formaldehyde	50-00-0	Yes	1000 lb / 454 kg	Yes

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

Health: Irritant; Eye Irritant; Carcinogenicity
Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 300 pounds of 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:

Inventories	CAS #	California Proposition 65		State "Right to Know" Lists							
		Listed	Type of Toxicity	CA	MA	MD	MI	NY	PA	RI	VT
Copper	7440-50-8	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Polydimethylsiloxane	70131-47-8	No	N/Ap	Yes	No	No	No	No	No	No	No
Silver	7440-22-4	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Trimethylmethylsilane	1185-55-3	No	N/Ap	No	No	No	No	No	No	No	No
Diamine dioxide	13403-87-7	Yes	Cancer (allergic, irritant, reproductive of respiration)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Methanol	67-56-1	No	Developmental	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Formaldehyde	50-00-0	Yes	Cancer (gas)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) Information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI: Copper (Part 1, Group A Substance) silver (Part 1, Group A Substance)

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

CHO-BOND® 1030
SDS Preparation Date (mm/dd/yyyy): 05/02/2017
50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000
Page 13 of 14

SAFETY DATA SHEET

International Information:

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

Ingredients	CAS #	European ENECs	Australia AICS	Philippines PECCA	Japan ENCS	Korea KOCNECL	China IECS	New Zealand NZC
Copper	7440-50-8	231-159-4	Present	Present	Not listed	KE-20809	Present	HSR002348
Polydimethylsiloxane	70131-67-8	Polymr	Present	Present	07-403 (7-478)	KE-31115	Present	HSR003458
silver	7440-22-4	231-131-3	Present	Present	Not listed	KE-31261	Present	HSR003077
Trimethylsilylamine	1865-55-3	214-065-0	Present	Present	03-2003 (3-2003)	KE-34094	Present	HSR003029
Isotam dicitrate	13463-67-7	126-475-3	Present	Present	09-3025 (9-558)	KE-33900	Present	May be used as a single chemical under an appropriate group standard.
Methanol	67-56-1	200-659-4	Present	Present	03-201	KE-31103	Present	HSR001146
Formaldehyde	50-00-0	200-001-8	Present	Present	03-482	KE-10774	Present	HSR001554, HSR001572, HSR001578, HSR001593 (all four)

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%
- ENECs: European Inventory of Existing Commercial chemical Substances
- ENCS: European Inventory of Existing Chemical Substances
- EPA: Existing and New Chemical Substances
- EPIC: Environmental Protection Agency
- HSDB: Hazardous Substances Data Bank
- MA: Massachusetts
- IBC: International Brotherhood of Firefighters
- IECS: Inventory of Existing Chemical Substances
- INDG: International Maritime Dangerous Goods
- IOC: Inventory of Chemicals
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LD: Lethal Concentration
- LD: Lethal Dose
- MA: Massachusetts
- MN: Minnesota
- NAP: Not Applicable
- NAP: Not Available
- NIOSH: National Institute of Occupational Safety and Health
- NJ: New Jersey
- NOEC: No observable effect concentration
- NTP: National Toxicology Program

CHO-BOND® 1030
SDS Preparation Date (mm/dd/yyyy): 05/02/2017
50-02-1030-0000; 50-02-1030-1000; 50-01-1030-0000
Page 14 of 14

SAFETY DATA SHEET

OECD: Organisation for Economic Co-operation and Development
CSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCPRA: 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
TSCA: Toxic Substances Control Act
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 2017.
2. International Agency for Research on Cancer Monographs, searched 2017.
3. Canadian Centre for Occupational Health and Safety, CCNIWeb databases, 2017 (Chempendium, HSDB and RTECS).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - January 27, 2017 version.
6. California Proposition 65 List - January 27, 2017 version.
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2017.

Preparation Date (mm/dd/yyyy) : 05/02/2017

Other special considerations for handling : Provide adequate information, instruction and training for operators.

Prepared for: Parker Hannifin Corp. 77 Dragon Court Woburn, MA, USA 01888 Telephone: 781-935-4580 Direct all enquiries to: Parker Hannifin Corp.	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (688) 977-4834 (Canada) http://www.thecompliancecenter.com	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Parker Hannifin Corporation and CCHHS Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Parker Hannifin Corporation expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. This data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Parker Hannifin Corporation.

END OF DOCUMENT



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 1 of 13

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **CHO-BOND® 1086**

Other means of identification : CHO-BOND® 1086

Recommended use of the chemical and restrictions on use

- : Adhesion promoter /Primer
- : No restrictions on use known.
- : Mixture of: Alcohols; silane compounds; Ketones
- : PHC-493

Chemical family

SDS number

Name, address, and telephone number of the manufacturer:

Parker Hannifin Corp.

Chomerics Division
77 Dragon Court
Woburn, MA, USA
01888

Manufacturer's Telephone # : (781) 935-4580

24 Hr. Emergency Tel # : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

Name, address, and telephone number of the supplier:

Refer to manufacturer

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear liquid. Alcohol / Solvent odor.

Most important hazards:

Highly flammable liquid and vapor. This material may be ignited by heat, sparks and direct flame.
Harmful if swallowed. Causes serious eye irritation. Suspected of causing cancer. Suspected of damaging the unborn child. Inhalation may cause central nervous system depression. May cause blindness if swallowed. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. 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

Acute toxicity - Category 4 (Oral)

Eye damage/irritation - Category 2A

Carcinogenicity - Category 2

Reproductive toxicity - Category 2

Specific target organ toxicity, single exposure - Category 1

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

Label elements

Hazard pictogram(s)



Signal Word

DANGER!



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 2 of 13

SAFETY DATA SHEET

Hazard statement(s)

Highly flammable liquid and vapor. Harmful if swallowed. Causes serious eye irritation. Suspected of causing cancer. Suspected of damaging the unborn child. May cause drowsiness or dizziness. Causes damage to the optic nerves (eyes) if swallowed. 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 hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. 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: Call a poison center/doctor if you feel unwell. Rinse mouth.

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. If eye irritation persists: Get medical advice/attention.

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, gases or vapours may evolve on burning. May be mildly irritating to skin and respiratory system. 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

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Ethanol	Ethyl alcohol Ethyl hydrate	64-17-5	65.0 - 85.0
Methanol	Carbinol Methyl alcohol Methyl hydrate	67-56-1	10.0 - 30.0
Methyl isobutyl ketone	4-methylpentan-2-one Isobutyl methyl ketone MIBK	108-10-1	0.1 - 1.0
Toluene	Methylbenzene	108-88-3	0.1 - 1.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret as allowed by 29CFR1910.1200.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion

: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. 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. IF exposed: Call a POISON CENTRE or doctor/physician.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 3 of 13

SAFETY DATA SHEET

Skin contact

: For skin contact, wash with soap and water while removing contaminated clothing. IF exposed or concerned: Get medical advice/attention. Launder clothing 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. Flush eyes with water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

May cause blindness if swallowed - cannot be made non-poisonous. Causes damage to the optic nerves (eyes) if swallowed. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness.

Inhalation of high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects.

Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing.

Suspected of damaging the unborn child. Symptoms may include fetal malformations, increased fetal resorptions, and decreased numbers of live fetuses.

May be mildly irritating to skin and respiratory system. Exposure may cause temporary irritation, redness or discomfort. 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. Contains methanol. Onset of symptoms may be delayed for 18 to 24 hours after ingestion. Medical supervision for minimum 48 hours.

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; Water fog.

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire. Water may be ineffective because it may not cool product below the flashpoint.

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. Vapours are heavier than air and may spread along floors. Flash back possible over considerable distance. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes may be released during a fire.

Flammability classification (OSHA 29 CFR 1910.106)

: Flammable liquid - Category 2

Hazardous combustion products

: Carbon oxides; formaldehyde; Nitrogen oxides (NO_x); Silicon oxides; Other unidentified organic compounds

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 4 of 13

SAFETY DATA SHEET

- : 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.

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.

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): Methanol (5000 lbs / 2270 kg); Methyl isobutyl ketone (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 vapour) 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 away from incompatibles.

Incompatible materials : Strong oxidizing agents; Strong acids; Strong bases; Alkali metals



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 5 of 13

SAFETY DATA SHEET

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Ethanol	N/Av	1000 ppm	1000 ppm (1900 mg/m ³)	N/Av
Methanol	200 ppm (skin)	250 ppm (skin)	200 ppm (260 mg/m ³)	N/Av
Methyl Isobutyl ketone	20 ppm	75 ppm	100 ppm (410 mg/m ³)	N/Av
Toluene	20 ppm	N/Av	200 ppm	300 ppm (Ceiling)

ACGIH - Biological Exposure Indices:

Methanol (CAS # 67-56-1)

15 mg/L, Medium: Urine, Parameter: Methanol (background, nonspecific)

Methyl isobutyl ketone (CAS # 108-10-1)

1 mg/L, Medium: Urine (end of shift), Parameter: MIBK

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

: 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. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection

: Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles; Safety glasses with side shields. 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. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear liquid.
Odour : Alcohol / solvent
Odour threshold : N/Av
pH : N/Av
Melting Point/Freezing point : N/Av



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 6 of 13

SAFETY DATA SHEET

Initial boiling point and boiling range

: 64 - 100°C (147 - 212°F)

Flash point : 13°C (55.4°F)

Flashpoint (Method) : Seta closed cup

Evaporation rate (BuAe = 1) : > 1 (butyl acetate = 1)

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

: 4.3% (Ethanol)

Upper flammable limit (% by vol.)

: 36.5% (Methanol)

Oxidizing properties : None.

Explosive properties : Not explosive

Vapour pressure : N/Av

Vapour density : > 1 (Air = 1)

Relative density / Specific gravity

: 0.82

Solubility in water : Insoluble.

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 cSt @ 25°C (77°F)

Volatiles (% by weight) : 91%

Volatile organic Compounds (VOC's)

: 817.2 g/L

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.

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; Alkali metals; Strong bases

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



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 7 of 13

SAFETY DATA SHEET

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

- : Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache). May cause blindness if swallowed - cannot be made non-poisonous. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness.

Sign and symptoms skin

- : May cause mild skin irritation. Exposure may cause temporary irritation, redness or discomfort. Can be absorbed through skin.

Sign and symptoms eyes

- : Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling and blurred vision.

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.

Contains: Ethanol. Ethanol has been shown to cause mutagenic effects but at extremely high oral doses, which are not applicable in an occupational setting.

Carcinogenicity

- : 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:

Carcinogenicity - Category 2. Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing.

Contains Methyl isobutyl ketone. Methyl isobutyl ketone is classified as possibly carcinogenic by IARC (Group 2B) and the ACGIH (Category A3).

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 Methanol. Methanol may cause fetotoxic and teratogenic effects at doses which are not maternally toxic, based on animal data. Symptoms may include fetal malformations, increased fetal resorptions, and decreased numbers of live fetuses.

Contains Toluene. Toluene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.

Sensitization to material

- : No data available to indicate product or components may be respiratory sensitizers.
No data available to indicate product or components may be skin sensitizers.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 8 of 13

SAFETY DATA SHEET

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 1. Causes damage to the optic nerves (eyes) if swallowed. Contains: Methanol. May cause blindness if swallowed - cannot be made non-poisonous. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness.

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.

Medical conditions aggravated by overexposure

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

Synergistic materials

: None known or reported by the manufacturer.

Toxicological data

: 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:
Acute toxicity - Category 4. Harmful if swallowed.

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

ATE oral = 1782 - 2673 mg/kg

ATE dermal = 2334 - 3502 mg/kg

ATE inhalation (vapours) = 24.3 - 36.5 mg/L/4H

See below for individual ingredient acute toxicity data.

Chemical name	LC ₅₀ (4hr)	LD ₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Ethanol	> 32 380 ppm (61 mg/L) (vapour)	7060 mg/kg	> 15 800 mg/kg
Methanol	> 5000 ppm/6H (4.1 mg/L/4H) (vapour)	5628 mg/kg (rat) The estimated human lethal dose is: 300 - 1000 mg/kg	> 393 mg/kg (Monkey) 15 800 mg/kg (rabbit)
Methyl isobutyl ketone	3000 ppm (12.29 mg/L) (vapour)	2080 mg/kg	> 3000 mg/kg
Toluene	7585 ppm (28.1 mg/L)	5580 mg/kg	12 125 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: No data is available on the product itself. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 9 of 13

SAFETY DATA SHEET

Ecotoxicity data:

Ingredients	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Ethanol	64-17-5	> 100 mg/L (Fathead minnow)	N/Av	None.
Methanol	67-56-1	15 400 mg/L (Bluegill sunfish)	446.7 mg/L/28-day (Fathead minnow) (QSAR)	None.
Methyl isobutyl ketone	108-10-1	780 mg/L (Fathead minnow)	N/Av	None.
Toluene	108-88-3	5.4 mg/L (pink salmon)	1.4 - 4 mg/L	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Ethanol	64-17-5	5012 mg/L (Daphnia magna)	N/Av	None.
Methanol	67-56-1	> 10 000 mg/L (Daphnia magna)	208 mg/L (QSAR)	None.
Methyl isobutyl ketone	108-10-1	> 200 mg/L (Daphnia magna)	30 mg/L	None.
Toluene	108-88-3	3.78 mg/L (Daphnia magna)	0.53 - 1 mg/L	None.

Ingredients	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Ethanol	64-17-5	1000 mg/L/96hr (Green algae)	N/Av	None.
Methanol	67-56-1	22 000 mg/L/96hr (Green algae)	N/Av	None.
Methyl isobutyl ketone	108-10-1	400 mg/L/96hr (Green algae)	N/Av	None.
Toluene	108-88-3	N/Av	10 mg/L/72hr (Green algae)	None.

Persistence and degradability

- : The product itself has not been tested.
- The following ingredients are considered to be readily biodegradable: Ethanol; Methanol; Methyl isobutyl ketone.

Bioaccumulation potential

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

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Ethanol (CAS 64-17-5)	- 0.31	N/Av
Methyl isobutyl ketone (CAS 108-10-1)	1.31	3.98
Methanol (CAS 67-56-1)	- 0.82 to - 0.64	< 10 (common carp)
Toluene (CAS 108-88-3)	2.65	

Mobility in soil

- : The product itself has not been tested.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 10 of 13

SAFETY DATA SHEET

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 vapour) 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.

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. (Ethanol; Methanol)	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	UN1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethanol; Methanol)	3(6.1)	II	 
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in quantities no larger than 1 Litre, in packages not exceeding 30 kg gross mass.				
ICAO/IATA	UN1992	Flammable liquid, toxic, n.o.s. (Ethanol; Methanol)	3(6.1)	II	 
ICAO/IATA Additional information	Refer to ICAO/IATA Packing Instruction				
IMDG	UN1992	FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethanol; Methanol)	3(6.1)	II	 
IMDG Additional information	Consult the IMDG regulations for exceptions.				

Special precautions for user : Appropriate advice on safety must accompany the package. Keep away from heat, sparks and open flame - No smoking.



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 11 of 13

- SAFETY DATA SHEET -

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.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

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

<u>Ingredients</u>	<u>CAS #</u>	<u>TSCA Inventory</u>	<u>CERCLA Reportable Quantity(RQ) (40 CFR 117.302):</u>	<u>SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:</u>	<u>SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical</u>	<u>de minimus Concentration</u>
Ethanol	64-17-5	Yes	None.	None.	No	No
Methanol	67-56-1	Yes	5000 lbs / 2270 kg	None.	Yes	No
Methyl isobutyl ketone	108-10-1	Yes	5000 lbs / 2270 kg	None.	Yes	No
Toluene	108-88-3	Yes	1000 lbs / 454 kg	None.	No	No

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

Physical hazards (Flammable liquid);

Health hazards (Acute toxicity - Oral; Eye irritation; Carcinogenicity; 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>	<u>CAS #</u>	<u>California Proposition 65</u>		<u>State "Right to Know" Lists</u>					
		<u>Listed</u>	<u>Type of Toxicity</u>	<u>CA</u>	<u>MA</u>	<u>MN</u>	<u>NJ</u>	<u>PA</u>	<u>RI</u>
Ethanol	64-17-5	Yes	Cancer (in alcoholic beverages) Developmental (in alcoholic beverages)	Yes	Yes	Yes	Yes	Yes	Yes
Methanol	67-56-1	Yes	Developmental	Yes	Yes	Yes	Yes	Yes	Yes
Methyl isobutyl ketone	108-10-1	Yes	Cancer; Developmental	Yes	Yes	Yes	Yes	Yes	Yes
Toluene	108-88-3	Yes	Developmental	No	No	Yes	No	No	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 12 of 13

SAFETY DATA SHEET

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
Ethanol	64-17-5	200-578-6	Present	Present	(2)-202	KE-13217	Present	HSR001144
Methanol	67-56-1	200-659-6	Present	Present	(2)-201	KE-23193	Present	HSR001186
Methyl isobutyl ketone	108-10-1	203-550-1	Present	Present	(2)-542	KE-24725	Present	HSR001194
Toluene	108-88-3	203-625-9	Present	Present	(3)-2	KE-33936	Present	HSR001227

SECTION 16: OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
ATE: Acute Toxicity Estimate
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CSA: Canadian Standards Association
DOT: Department of Transportation
EC50: Effective Concentration 50%
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organisation
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
ISHL: Industrial Safety Health Law
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and 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
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System



Parker Hannifin Corp.
Chomerics Division
77 Dragon Court
Woburn, MA, USA, 01888
Telephone: (781) 935 4850

CHO-BOND® 1086

SDS Revision Date (mm/dd/yyyy): 03/30/2022

SDS No: PHC-493

Page 13 of 13

SAFETY DATA SHEET

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
2. ECHA - European Chemical Agency
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
4. Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists
6. California Proposition 65 List
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

Preparation Date (mm/dd/yyyy)

: 03/21/2022

Reviewed Date SDS (dd/mm/yyyy)

: 30/03/2022

Revision No.

: 2

Revision Information

: (M)SDS sections updated: 2. HAZARDS IDENTIFICATION; 3. COMPOSITION/INFORMATION ON INGREDIENTS; 9. PHYSICAL AND CHEMICAL PROPERTIES; 11. TOXICOLOGICAL INFORMATION

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for: Parker Hannifin Corp. Chomerics Division 77 Dragon Court Woburn, MA, U.S.A. 01888 Telephone: (781) 935-4850	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Parker Hannifin Corporation and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Parker Hannifin Corporation expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Parker Hannifin Corporation.

END OF DOCUMENT