



Health	2
Fire	2
Reactivity	0
PPE	G



SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Covaron InfernoWare™ Shield AA	Supplier Information: 1-734-315-4221
Application: Thermosetting amorphous ceramic compound	Covaron Advanced Materials
CAS#: <i>Not available</i>	4401 Varsity Dr, Suite A
RTECS: <i>Not available</i>	Ann Arbor, MI 48108
Document Revision: 1.0	CHEMTREC (24-hour): 1-800-424-9300
Document Revision Date: 2025 January 6	Poison Control (24-hour): 1-800-222-1222
	For non-emergency assistance: 1-734-315-4221

SECTION 2: HAZARDS IDENTIFICATION

<p>GHS classification in accordance with 29 CFR 1910 (OSHA HCS) Physical - Flammable Liquids (4) Health - Acute toxicity (4 Oral) Reproductive toxicity (Category 1B), Skin Corrosion 2 Skin Sensitization 1 Serious Eye damage 2A May cause cancer</p> <p>Signal word Warning</p> <p>Very toxic to aquatic life with long lasting effects (GHS category 1: aquatic toxicity - acute and/or chronic).</p>	GHS hazard statements	
	H302	Harmful if swallowed
	H315	Cause skin irritation
	H317	May cause an allergic skin reaction
	H319	Cause serious eye irritation
	H334	Respiratory sensitization
	H336	May cause drowsiness or dizziness
	H351	May cause cancer
	H360	May damage fertility or the unborn child.
	GHS precautionary statements	
	P201	Obtain special instructions before use.
	P210	Avoid heat/sparks/open flames/hot surfaces.
	P261	Avoid breathing fumes, mist, and vapor.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P272	Contaminated work clothing must not be allowed out of the workplace.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.	
P301 P312 P330	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.	
P302 P361 P352	IF ON SKIN (or hair): remove immediately all contaminated clothing. Rinse skin with water or shower.	

	P305 P338 P351	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/doctor.
	P314	Get medical advice/attention if you feel unwell.
	P333 P313	If skin irritation or rash occurs: Get medical advice/attention.
	P363	Wash contaminated clothing before use.
	P370 P378	In case of fire: Use sand or carbon dioxide or powder extinguisher for extinction.
	P403 P235	Store locked up in a well-ventilated place. Keep Cool
	P501	Dispose of contents and containers to an approved facility in accordance with local, regional, national, and international regulations.

SECTION 3: Composition

Name	CAS#	Wt%
Proprietary resin	-	5-45
Parachlorobenzotrifluoride	98-56-6	20-65
propylene glycol methyl ether acetate	108-65-6	0-15
Aluminum oxide	1344-28-1	0-10
Cobalt Oxide	1308-06-1	0-3
Charcoal	16291-96-6	0-5
Iron oxide	1309-37-1	0-8
Nickel	7440-02-0	0-2

SECTION 4: FIRST AID MEASURES

General	Consult a physician. Provide this data sheet to medical personnel. Move out of dangerous area.
If inhaled	Move person to fresh air. Seek medical attention. If not breathing or unconscious, provide artificial respiration. Exercise caution if performing mouth-to-mouth resuscitation for persons who have inhaled toxic substances.
Skin Contact	Immediately flush skin with large amount of water while removing contaminated clothing and shoes. Wash off with soap and water for at least 15 minutes. If symptoms persist, seek medical attention. Do not peel solidified product off the skin.
Eye Contact	Rinse thoroughly with plenty of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lid. Remove contact lenses if present and easy to do. Continue rinsing. Consult a physician.
Ingestion	To prevent aspiration of material into the lungs, lay the victim on one side with head lower than the waist. Never give anything by mouth to an unconscious

	person. Rinse mouth with water, then drink a lot of water. Remove denture if present. Seek medical advice.	
--	--	--

SECTION 5: Fire Fighting Measure

Extinguishing media	Suitable methods of extinction: Use only sand, dry chemical or carbon dioxide. Unsuitable methods of extinction: Water jets streams may spread the fire.
Special hazards	Flammable liquid and vapor! Vapors are heavier than air and can travel along the ground to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Liquid will float and may reignite on the surface of water.
Advice for firefighters	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Avoid breathing mist or vapors. Wear respiratory protection. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapor accumulation in low-lying areas.
Environmental precautions	Prevent further leakage or spillage, if practical and safe. Do not allow product to enter drains. Avoid discharge into the environment.
Methods and materials for containment and remediation	Stop leak if possible and safe. Cover spill with vermiculite, perlite or ground clay. Do not use combustible material such as saw dust. Sweep up and store in appropriate waste container for disposal via a licensed waste disposal company.

SECTION 7: HANDLING AND STORAGE

<p>Precautions for safe handling:</p>	<p>This material is flammable: Avoid vapor formations and use with adequate ventilation, avoid breathing fumes. Vapors are heavier than air and will tend to collect in low areas. Avoid use in confined spaces. Flammable vapors may form explosive mixtures in the air. Ground coating equipment and containers at all times. Use non sparking tools. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.</p> <p>Avoid bodily contact with material: Wear appropriate personal protective equipment. Avoid contact with skin and eyes. Wash hands thoroughly after handling and avoid contact with eyes. No eating, drinking or smoking near areas where substance is handled, processed or stored.</p>
<p>Conditions for safe storage, including incompatibilities</p>	<p>Keep container clearly labeled and tightly closed in a cool, dry, well-ventilated area. Opened containers must be carefully resealed and kept upright to prevent leakage. Keep away from heat, flames, static electricity. Containers are hazardous when empty as they contain product residues. Ventilate closed areas. Keep out of reach of children.</p>

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Control: Adequate room ventilation plus local exhaust at points of emission to maintain levels of airborne contaminants below exposure limits. Assure ACGIH TWA and OSHA PEL limits (varies by product) are maintained. Use of fume hoods or closed booths required when product is used in a manner that may generate mist or aerosol.

Personal Protective Equipment:

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times. Solvent resistant (neoprene, nitrile or other nonporous) recommended.

Eyes: Chemical splash goggles should be worn at a minimum.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Apron and protective industrial coating recommended.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark liquid	Evap. Rate:	No data available
Physical state:	Liquid	Decomp Temp:	No data available
Density:	0.8 - 1.4 g/cm ³	Odor:	Organic solvent
Viscosity:	50-100 Cp	Solubility:	negligible
Boiling Point:	>136 °C	Freezing/Melting pt.:	Not Available
Flammability:	Flammable	Flash Point:	43 °C, closed cup
Partition Coefficient	Not Available	Vapor Density:	No data available
Vapor Pressure	Not Available	VOC:	15wt%
pH:	N/A	Auto-ignition Temp:	>500C (932F)
		UFL/LFL:	No data available

SECTION 10: STABILITY AND REACTIVITY

Hazardous polymerization	No
Hazardous Decomposition	Thermal decomposition products include oxides of carbon.
Materials to avoid	Strong oxidizers
Chemical stability	Stable

SECTION 11: TOXICOLOGICAL INFORMATION

NTP Carcinogen: Yes IARC Monographs: No OSHA Regulated: Yes (0.02mg/m³ TWA, 8h)
Cobalt oxide, Nickel are recognized as suspected carcinogens by the National Toxicology Program (NTP), the International Agency for Cancer Research (IARC) or the Occupational Safety and Health Administration (OSHA).
 Reported Human Effects: No human studies have been conducted with this material. The use of recommended protective equipment should minimize any adverse effects.

Based on sums of components, following animal effects are expected:
 Oral LD50, rat: 1000 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

Acute and prolonged toxicity to fish : LC50 *Lepomis macrochirus*(Bluegill) 9h 5.6mg/l

Toxicity to aquatic invertebrates EC50 *Daphnia magna* (water fleas) 48h 3.7-5.6mg/L

Avoid disposal in Landfills and sewage systems. Avoid releases into water sources

SECTION 13: DISPOSAL CONSIDERATIONS

This product, as well as any materials impregnated or infused with it during its use, must be disposed of in accordance with all applicable local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material

SECTION 14: TRANSPORT INFORMATION

UN number: not subject to transport regulations

US DOT and IATA

Proper Shipping n/a

Hazard Class: none

UN Number n/a

Packing Group: n/a

Environmentally hazardous substance (aquatic environment) p-chlorobenzotrifluoride (check remarks)

Remarks

Covaron InfernoWare™ Shield AA is **not subject to transportation regulations** as rule 49 CFR § 173.120(a)(3) of the hazardous materials regulations, declares that "Any liquid with a flash point greater than 35 °C (95 °F) that does not sustain combustion according to ASTM D 4206 or the procedure in appendix H of this part" do not meet the definition of a Class 3 Flammable Liquid. Also rule 49 CFR § 173.120(a)(3) states that liquid with a flash point above 60°C is not considered Flammable.

Similarly, International Air Transport Association (IATA) Dangerous Goods Regulations section 3.3.1.3(a) states that liquids which do not sustain combustion and has "passed a suitable test for combustibility" are not considered as flammable.

Covaron proprietary resin has a flash point of 90C, and the blend of propylene glycol methyl ether acetate and p-Chlorobenzotrifluoride does not sustain combustion when testing with ASTM D 4206. Covaron InfernoWare™ Shield AA therefore does not meet the 49 CFR § 173.120(a)(3) criteria for flammable and is **NOT considered regulated for purposes of transportation**.

Remarks

The high volatility of p-Chlorobenzotrifluoride (PCBTF) causes it to preferentially partition to the atmosphere. The impact of a spill of 100 kg is estimated to be 99.93% in the atmosphere and 0.06% in the water (M. Garlanda, 1990). Similarly, PCBTF's aqueous solubility (29.1 mg/L) limits its potential impact on aquatic ecosystems. The PCBTF has shown significant toxicity to aquatic species under laboratory conditions but is unlikely to exhibit a similar level of acute toxicity under environmental conditions because of its solubility and volatility. PCBTF's physical/chemical properties also mitigate the moderate level of bioaccumulation measured in laboratory tests. PCBTF should rapidly volatilize from dry and moist soils. As a result of its volatility and relative environmental partitioning characteristics, PCBTF is unlikely to pose a significant threat to aquatic or terrestrial ecosystems.

SECTION 15: REGULATORY INFORMATION

Component	CAS#	Wt%	Regulations
Proprietary resin	—	5-40	TSCA, PA, M, NJ
parachlorobenzotrifluoride	98-56-6	20-65	TSCA(export notification), NJ, PA, CA prop. 65
propyleneglycol methyl ether acetate	108-65-6	0-15	TSCA
Cobalt Oxide	1308-06-1	0-3	TSCA, PA, M, NJ, CAprop65
Nickel	7440-02-0	0-2	TSCA, PA, M, NJ, CAprop65

PA = PA Right-To-Know List of Hazardous Substances
M=Massachusetts Right-To-Know List of Hazardous Substances
NJ= New Jersey Right-To-Know List of Hazardous Substances
DE= Delaware Right-To-Know List of Hazardous Substances
NY= New York Right-To-Know List of Hazardous Substances
PA= Pennsylvania Right-To-Know List of Hazardous Substances
RI= Rhode Island Right-To-Know List of Hazardous Substances
WI= Wisconsin Right-To-Know List of Hazardous Substances
CA Prop. 65 = Safe Drinking Water and Toxic Enforcement Act
TSCA = Toxic Substances Control Act
The following are on California Prop65 list:
Para chlorobenzotrifluoride
Cobalt oxide
Nickel

Covaron coatings meet all air quality and regulatory requirements with respect to manufacturing and application. Specifically, the hardened finished product does not release any "volatile organic compounds" (VOC) under any ambient conditions.

U.S. TOXIC SUBSTANCES CONTROL ACT: All components of this product are on the TSCA Inventory or are exempt from the TSCA Inventory requirements under 40 CFR 720.30.

This compound is subject to TSCA 12b export notification requirement 475645-84-2

SECTION 16: OTHER INFORMATION

NFPA

Health=2

Fire=2

Reactivity=0

Specific Hazard=No

HMIS

Health=2

Fire=2

Physical Hazard=0

PPE: G- Safety Glasses, Gloves, Vapor respirators

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you (as it is your legal duty to) make all information in this Safety Data Sheet available to all your employees.

This document and its contents are copyright 2024 Covaron Advanced Materials. License granted to make unlimited copies for internal use, subject to the terms of all applicable confidentiality and non-disclosure agreements. Information contained in this literature is offered for use by technically qualified personnel at their own discretion and risk. All statements and information contained herein are provided in good faith. While based on analytic procedures believed to be reliable, Covaron makes no express or implicit guarantee regarding their accuracy or completeness. As Covaron exercises no control over the end use of the product described herein, it assumes no liability for loss or damage incurred therefrom.