# **SAFETY DATA SHEET**

Alloy SAC305 W20

#### Section 1. Identification : Alloy SAC305 W20 **GHS** product identifier : GHS003 **Reference number** Other means of : Not available. identification **Product type** : Solid. [Solder Paste] Relevant identified uses of the substance or mixture and uses advised against Not applicable. **Supplier's details** : AIM 9100 Henri Bourassa East Montreal, QC H1E 2S4 (514) 494-2000 In the United States: AIM 25 Kenney Drive Cranston, RI 02920 (800) CALL-AIM

In México AIM Soldadura de México Circuito Interior Norte # 460 Parque Industrial Salvarcar Ciudad Juárez, Chih. (656) 630-0032

Emergency telephone	: INFOTRAC
number (with hours of	North America: (800) 535-5053
operation)	International: (352) 323-3500

### Section 2. Hazards identification

Date of issue/Date of revision

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: SKIN SENSITIZATION - Category 1
<u>GHS label elements</u> Hazard pictograms	:



: 4/26/2024

Signal word Hazard statements	: Warning : May cause an allergic skin reaction.
Precautionary statements	
Prevention	: Wear protective gloves. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.
Response	: Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.
Storage	: Not applicable.

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### Section 2. Hazards identification

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Hazards not otherwise classified

### Section 3. Composition/information on ingredients

: None known.

Substance/mixture	: Mixture
Other means of	: Not available.
identification	

Ingredient name	%	CAS number
Tin	≥75 - ≤90	7440-31-5
Silver	≤3	7440-22-4
Terpineol	≤3	8000-41-7
Rosin	≤1	8050-09-7
bis(2-(2-methoxyethoxy)ethyl) ether	<1	143-24-8
Copper	≤1	7440-50-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

#### **Description of necessary first aid measures**

Eye contact	<ul> <li>Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.</li> </ul>
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

Potential acute healt	<u>h effects</u>
Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: May cause an allergic skin reaction.
Ingestion	: No known significant effects or critical hazards.

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## Section 4. First aid measures

Over-exposure signs/symp	i <u>toms</u>
Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.
Indication of immediate med	lical attention and special treatment needed, if necessary
Notes to physician	<ul> <li>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</li> </ul>
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

#### See toxicological information (Section 11)

### Section 5. Fire-fighting measures

Extinguishing media	
Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: No specific fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
Special protective actions for fire-fighters	<ul> <li>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</li> </ul>
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Section 6. Accidental release measures

Personal precautions, protect	<u>tiv</u>	e equipment and emergency procedures
For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

#### Methods and materials for containment and cleaning up

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## Section 6. Accidental release measures

Small spill	: Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

Precautions for safe handling	
Frecautions for sale fianting	
Protective measures	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Section 8. Exposure controls/personal protection

#### **Control parameters**

#### **Occupational exposure limits**

Ingredient name	Exposure limitsACGIH TLV (United States, 3/2020).TWA: 2 mg/m³, (as Sn) 8 hours. Form:Inhalable fractionNIOSH REL (United States, 10/2016).TWA: 2 mg/m³ 10 hours.OSHA PEL (United States, 5/2018).TWA: 2 mg/m³, (as Sn) 8 hours.ACGIH TLV (United States, 3/2020).TWA: 0.1 mg/m³ 8 hours. Form: Dust andfumesOSHA PEL 1989 (United States, 3/1989).TWA: 0.01 mg/m³, (as Ag) 8 hours.OSHA PEL (United States, 5/2018).TWA: 0.01 mg/m³, (as Ag) 8 hours.NIOSH REL (United States, 10/2016).TWA: 0.01 mg/m³, (as Ag) 10 hours. Form:METAL DUST AND SOLUBLE			
Tin Silver				
Terpineol Rosin	None. ACGIH TLV (United States, 3/2020). Skin sensitizer. Inhalation sensitizer.			
bis(2-(2-methoxyethoxy)ethyl) ether Copper	None. ACGIH TLV (United States, 3/2020). TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: Dust			
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## Section 8. Exposure controls/personal protection

	and mist TWA: 0.2 mg/m <sup>3</sup> 8 hours. Form: Fume <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: Fume <b>NIOSH REL (United States, 10/2016).</b> TWA: 1 mg/m <sup>3</sup> , (as Cu) 10 hours. Form: Dusts and Mists <b>OSHA PEL (United States, 5/2018).</b> TWA: 1 mg/m <sup>3</sup> 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m <sup>3</sup> 8 hours. Form: Fume
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Appropriate engineering controls	: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment

will be necessary to reduce emissions to acceptable levels.

Individual	protection	measures

Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	: 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.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

: Solid. [Solder Paste]
: Solid. [Solder Paste]
: Not available.
: Not applicable.
: Not available.
: Not available.
: Not applicable.
: Not available.
: Not applicable.
: Not available.
: Not available.
: Not available.
: Not applicable.
: Not applicable.
: Not available.
: Not applicable.
: Not available.

### Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

#### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Terpineol	LD50 Oral	Rat	4300 mg/kg	-
Rosin	LD50 Oral	Rat	7600 mg/kg	-
bis(2-(2-methoxyethoxy)ethyl)	LD50 Dermal	Rat	>6900 mg/kg	-
ether				
	LD50 Oral	Rat	3850 mg/kg	-

#### Irritation/Corrosion

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## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Terpineol	Eyes - Mild irritant	Mammal - species unspecified	-	12.5 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
bis(2-(2-methoxyethoxy)ethyl) ether	Eyes - Mild irritant	Rabbit	-	500 mg	-

#### **Sensitization**

Not available.

#### **Mutagenicity**

Not available.

#### **Carcinogenicity**

Not available.

#### **Reproductive toxicity**

Not available.

#### **Teratogenicity**

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure) Not available.

#### **Aspiration hazard**

Not available.

## Information on the likely : Not available.

Potential acute health effects		
Eye contact	:	No known significant effects or critical hazards.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	May cause an allergic skin reaction.
Ingestion	:	No known significant effects or critical hazards.

# Symptoms related to the physical, chemical and toxicological characteristicsEye contact: No specific data.

Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.

Delayed and immediate effect	ts and also chronic effects from short and long term exposure
<u>Short term exposure</u>	
Potential immediate effects	: Not available.
Potential delayed effects Long term exposure	: Not available.

## Section 11. Toxicological information

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Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Potential chronic health eff	ects
Not available.	
General	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

#### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	166183.57 mg/kg

## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
Silver	Acute EC50 1.4 µg/l Marine water	Algae - Chroomonas sp.	4 days
	Acute EC50 0.24 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 11 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata	48 hours
	Acute LC50 2.13 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 5 mg/l Marine water	Algae - Glenodinium halli	72 hours
bis(2-(2-methoxyethoxy)ethyl) ether	EC10 2871 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	EC50 8996 mg/l	Aquatic plants - Pseudokirchneriella subcapitata	72 hours
	EC50 7467 mg/l	Daphnia	48 hours
	LC50 >5000 mg/l	Fish - Brachydanio rerio	96 hours
Copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 1 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 2.1 μg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling,	6 weeks

### Section 12. Ecological information

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Persistence and degradability

Not available.

#### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
Silver Terpineol	- 2.6	-	low low
Rosin bis(2-(2-methoxyethoxy)ethyl) ether	1.9 to 7.7	-	high Iow

#### Mobility in soil

Soil/water partition	: Not available.
coefficient (Koc)	

## Section 13. Disposal considerations

Disposal methods	: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been
	cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	ΙΑΤΑ
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
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Section 14. Transport information							
Additional	<b>Reportable</b>	-	-	-	-	-	
information	quantity						
	37664.8 lbs /						
	17099.8 kg.						
	Package sizes						
	shipped in						
	quantities less						
	than the						
	product						
	reportable						
	quantity are not						
	subject to the						
	RQ (reportable						
	quantity)						
	transportation						
	requirements.						

#### Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available. to IMO instruments

### Section 15. Regulatory information

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Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	: Not listed
Clean Air Act Section 602 Class I Substances	: Not listed
Clean Air Act Section 602 Class II Substances	: Not listed
DEA List I Chemicals (Precursor Chemicals)	: Not listed
DEA List II Chemicals (Essential Chemicals)	: Not listed
State regulations	
Massachusetts	: The following components are listed: TIN; SILVER
New York	: The following components are listed: Silver
New Jersey	: The following components are listed: TIN; SILVER
Pennsylvania	: The following components are listed: TIN; SILVER COMPOUNDS
<u>California Prop. 65</u>	

#### WARNING: This product can expose you to Strong inorganic acid mists containing sulfuric acid, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	Cancer			Maximum acceptable dosage level
sulphuric acid	Yes.	No.	-	-

#### **International regulations**

#### **Montreal Protocol**

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

### Section 15. Regulatory information

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### **UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

#### International lists

National inventory	
Australia	: Not determined.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: Not determined.
Japan	: Japan inventory (CSCL): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: Not determined.

### Section 16. Other information

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



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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

#### Procedure used to derive the classification

Classification			Justification			
SKIN SENSITIZATION - Category 1				Calculation method		
History						
Date of printing	: 4/26/2024					
Date of issue/Date of revision	: 4/26/2024					
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### Section 16. Other information

Date of previous issue	:	4/24/2024
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Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = International Air Transport Association IBC = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	:	Not available.

Indicates information that has changed from previously issued version.

#### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.