SAFETY DATA SHEET



Handi-Foam

Section 1. Identification

Product identifier : Handi-Foam
Product code : Not available.
Other means of : Not available.

identification

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Polyurethane sealant.

Supplier's details : Alltemp Products Co. Ltd

827 Brock Rd S

Pickering, Ontario Canada, L1W3J2

Tel: 905-831-3311 Fax: 905-831-1864 Email: sales@alltemp.ca Web site: www.alltemp.ca

Emergency telephone number (with hours of

operation)

: 1-905-831-3311 8:30 am - 5:00 pm

Section 2. Hazard identification

Classification of the substance or mixture

: GASES UNDER PRESSURE - Compressed gas ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

RESPIRATORY SENSITIZATION - Category 1

SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory

system) - Category 2

HAZARDOUS TO THE OZONE LAYER - Category 1

GHS label elements

Hazard pictograms :









Signal word : Danger



Section 2. Hazard identification

Hazard statements

: H280 - Contains gas under pressure; may explode if heated.

H331 - Toxic if inhaled.

H319 - Causes serious eye irritation.

H315 - Causes skin irritation.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 - May cause an allergic skin reaction.

H351 - Suspected of causing cancer.

H373 - May cause damage to organs through prolonged or repeated exposure.

(respiratory system)

H420 - Harms public health and the environment by destroying ozone in the upper

atmosphere.

Precautionary statements

Prevention

: P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves. Wear protective clothing. Wear eye or face

protection.

P284 - Wear respiratory protection.

P271 - Use only outdoors or in a well-ventilated area.

P260 - Do not breathe dust or mist.

P264 - Wash hands thoroughly after handling.

P272 - Contaminated work clothing should not be allowed out of the workplace.

Response

: P314 - Get medical attention if you feel unwell.

P308 + P313 - IF exposed or concerned: Get medical attention.

P304 + P340 + P311 - IF INHALED: Remove person to fresh air and keep

comfortable for breathing. Call a POISON CENTER or physician.

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or

physician.

P302 + P352 + P362 + P364 - IF ON SKIN: Wash with plenty of soap and water.

Take off contaminated clothing and wash it before reuse.

P333 + P313 - If skin irritation or rash occurs: Get medical attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical attention.

Storage : P405 - Store locked up.

P410 - Protect from sunlight.

P403 - Store in a well-ventilated place.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional,

national and international regulations.

P502 - Refer to manufacturer or supplier for information on recovery or recycling.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Other means of identification

: Not available.

Ingredient name	% (w/w)	CAS number
Chlorodifluoromethane 4,4'-Methylenediphenyl Diisocyanate Isocyanic Acid, Polymethylenepolyphenylene Ester	10 - 30 5 - 10 5 - 10	75-45-6 101-68-8 9016-87-9

The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018.

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.





Section 3. Composition/information on ingredients

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

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact

: 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 20 minutes. Get medical attention.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin contact

: Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. 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 health effects

Eye contact : Causes serious eye irritation.

Inhalation : Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if

inhaled.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

wheezing and breathing difficulties

asthma

Skin contact: Adverse symptoms may include the following:

irritation redness





Section 4. First-aid measures

Ingestion

: No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments
Protection of first-aiders

: No specific treatment.

: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

Unsuitable extinguishing media

: Dry chemical, carbon dioxide, Halon 1211, chemical foam, or water spray if used in large quantities (water contamination will produce carbon dioxide).

: None known.

Specific hazards arising from the chemical

Hazardous thermal decomposition products

: In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed.

: Decomposition products may include the following materials: carbon dioxide

carbon monoxide nitrogen oxides

halogenated compounds

carbonyl halides

Special protective actions for fire-fighters

: 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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, protective 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. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.



Section 6. Accidental release measures

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). May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Spill

: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous.

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. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

: Store between the following temperatures: 15.556 to 26.667°C (60 to 80°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. 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 limits
Chlorodifluoromethane	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 3500 mg/m³ 8 hours. 8 hrs OEL: 1000 ppm 8 hours. CA British Columbia Provincial (Canada, 7/2018). TWA: 500 ppm 8 hours. STEL: 1250 ppm 15 minutes. CA Ontario Provincial (Canada, 1/2018). TWA: 1000 ppm 8 hours. CA Quebec Provincial (Canada, 1/2014). TWAEV: 1000 ppm 8 hours. TWAEV: 3540 mg/m³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
4,4'-Methylenediphenyl Diisocyanate	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 0.005 ppm 8 hours. 8 hrs OEL: 0.05 mg/m³ 8 hours. CA British Columbia Provincial (Canada, 7/2018). Absorbed through skin. Inhalation sensitizer. TWA: 0.005 ppm 8 hours. C: 0.01 ppm CA Quebec Provincial (Canada, 1/2014). Skin sensitizer. TWAEV: 0.005 ppm 8 hours. TWAEV: 0.051 mg/m³ 8 hours. CA Ontario Provincial (Canada, 1/2018). TWA: 0.005 ppm 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 0.015 ppm 15 minutes. TWA: 0.005 ppm 8 hours.
Isocyanic Acid, Polymethylenepolyphenylene Ester	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 0.07 mg/m³ 8 hours. 8 hrs OEL: 0.005 ppm 8 hours. CA British Columbia Provincial (Canada, 7/2018). Sensitization potential. TWA: 0.005 ppm 8 hours. C: 0.01 ppm CA Ontario Provincial (Canada, 1/2018). C: 0.02 ppm TWA: 0.005 ppm 8 hours.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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.



Section 8. Exposure controls/personal protection

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: chemical splash goggles.

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

Appearance

Physical state : Liquid. [Aerosol. Viscous liquid which foams upon release from container as an off-

white to yellowish froth. (Note: Appearance may differ with the introduction of a dye

or colorant).]

Color : Off-white to yellowish.

Odor : Not available.
Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 93.3°C (199.9°F)

Flash point : Closed cup: 426.6°C (799.9°F)

Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive : Not available.

(flammable) limits

Vapor pressure : Very low.
Vapor density : Not available.

Relative density : 1.2

Solubility : Not available.

Partition coefficient: n- : Not available.

octanol/water

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.



Section 9. Physical and chemical properties

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Aerosol product

Type of aerosol : Spray
Heat of combustion : 2.994 kJ/g

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

: Do not store above 120°F (49°C). For longest shelf life, avoid storage above 80°F

(26.6°C).

Incompatible materials

: Avoid alcohols, strong bases or amines and metal compounds (such as small

particle metal catalysts).

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
4,4'-Methylenediphenyl Diisocyanate Isocyanic Acid, Polymethylenepolyphenylene Ester	LD50 Oral LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rat Rabbit Rat	9200 mg/kg 490 mg/m³ >9400 mg/kg 49 g/kg	- 4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4,4'-Methylenediphenyl Diisocyanate Isocyanic Acid, Polymethylenepolyphenylene Ester	Eyes - Moderate irritant Eyes - Mild irritant	Rabbit Rabbit		100 mg 100 mg	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification





Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
Chlorodifluoromethane	-	3	-
4,4'-Methylenediphenyl Diisocyanate	-	3	-
Isocyanic Acid,	-	3	-
Polymethylenepolyphenylene Ester			

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Target organs
4,4'-Methylenediphenyl Diisocyanate Isocyanic Acid, Polymethylenepolyphenylene Ester	0 ,	Respiratory tract irritation Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Target organs
4,4'-Methylenediphenyl Diisocyanate Isocyanic Acid, Polymethylenepolyphenylene Ester	Category 2 Category 2	respiratory system Not determined

Aspiration hazard

There is no data available.

Information on the likely routes of exposure

: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if

inhaled.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

wheezing and breathing difficulties

asthma

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No known significant effects or critical hazards.

<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u> <u>Short term exposure</u>





Section 11. Toxicological information

Potential immediate

effects

: No known significant effects or critical hazards.

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Potential delayed effects

: No known significant effects or critical hazards.

Long term exposure

Potential immediate

effects

: No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Once

sensitized, a severe allergic reaction may occur when subsequently exposed to very

low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of

exposure.

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
Inhalation (vapors) Inhalation (dusts and mists)	5.05 mg/L 15.15 mg/L

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Chlorodifluoromethane	1.11 to 1.16	-	low
4,4'-Methylenediphenyl Diisocyanate	4.51	200	low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects : No known significant effects or critical hazards.



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 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. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	TDG Classification	IMDG	IATA
UN number	UN1950	UN1950	UN1950
UN proper shipping name	Aerosols, poison, Packing Group III (each not exceeding 1 L capacity)	Aerosols, poison, Packing Group III (each not exceeding 1 L capacity)	Aerosols, poison, Packing Group III (each not exceeding 1 L capacity)
Transport hazard class(es)	Limited quantity	Limited quantity	Limited quantity
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.26-2.36 (Class 6).

Emergency Response Guidebook (ERG)

: 126

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.

Section 15. Regulatory information

Canadian lists

Canada inventory (DSL NDSL)

: All components are listed or exempted.

Canadian NPRI

: The following components are listed: Chlorodifluoromethane; 4,4'-Methylenediphenyl Diisocyanate; Isocyanic Acid, Polymethylenepolyphenylene Ester

CEPA Toxic substances

: The following components are listed: Chlorodifluoromethane; 4,4'-Methylenediphenyl Diisocyanate; Isocyanic Acid, Polymethylenepolyphenylene Ester



Section 16. Other information

Procedure used to derive the classification

Classification	Justification
GASES UNDER PRESSURE - Compressed gas	Expert judgment
ACUTE TOXICITY (inhalation) - Category 3	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
RESPIRATORY SENSITIZATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)	Calculation method
(respiratory system) - Category 2	
HAZARDOUS TO THE OZONE LAYER - Category 1	Calculation method

History

Date of issue : 09/15/2019

Date of previous issue : Not applicable

Version : 1

Prepared by : KMK Regulatory Services Inc.

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 = Intermediate Bulk Container

IMDG = 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

HPR = Hazardous Products Regulations

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.

