

# Material Safety Data Sheet

Permacure



## 1. Product and company identification

<b>Product name</b>	: Permacure
<b>Supplier</b>	: Same as manufacturer.
<b>Synonym</b>	: Not available.
<b>Trade name</b>	: Permacure
<b>Material uses</b>	: Not available.
<b>Manufacturer</b>	: Tech International, 200 E. Coshocton St., Johnstown, Ohio 43031, 1-740-967-9015; Chemtrec 1-800-424-9300
<b>Code</b>	: 220, 222, 224, 226
<b>MSDS #</b>	: 220, 222, 224, 226
<b>Validation date</b>	: 11/12/2014.
<b>Print date</b>	: 11/12/2014.
<b><u>In case of emergency</u></b>	: Chemtrec 1-800-424-9300 (24hrs) CHEMTREC Brazil (Rio De Janeiro): +(55)-2139581449 CHEMTREC Mexico: 01-800-681-9531 CHEMTREC Russia: 8-800-100-6346
<b>Product type</b>	: Solid.

## 2. Hazards identification

### Emergency overview

<b>Physical state</b>	: Solid.
<b>Color</b>	: Gray. [Light]
<b>Odor</b>	: Not available.
<b>Signal word</b>	: DANGER!
<b>Hazard statements</b>	: MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
<b>Precautionary measures</b>	: Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep container closed. Wash thoroughly after handling.
<b>Routes of entry</b>	: Not available.

### Potential acute health effects

<b>Inhalation</b>	: Toxic by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: Very toxic if swallowed.
<b>Skin</b>	: Severely irritating to the skin.
<b>Eyes</b>	: Severely irritating to eyes. Risk of serious damage to eyes.

### Potential chronic health effects

<b>Chronic effects</b>	: Contains material that may cause target organ damage, based on animal data.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

## 2. Hazards identification

**Target organs** : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, eyes, stomach.

### Over-exposure signs/symptoms

**Inhalation** : No specific data.  
**Ingestion** : No specific data.  
**Skin** : Adverse symptoms may include the following:  
 irritation  
 redness  
**Eyes** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

## 3. Composition/information on ingredients

Name	CAS number	%
Rubber, natural	9003-31-0	25 - 50
Kaolin	-	10 - 25
Sulfur	7704-34-9	0 - 5
1,3-diphenyl-2-thiourea	102-08-9	0 - 5
zinc oxide	1314-13-2	0 - 5
distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	0 - 5
distillates (petroleum), hydrotreated light naphthenic	64742-53-6	0 - 5
Phthalic anhydride	85-44-9	0 - 5

**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.**

## 4. First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** : 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.

## 4. First aid measures

**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.

## 5. Fire-fighting measures

**Flammability of the product** : No specific fire or explosion hazard.

### Extinguishing media

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : 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.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
sulfur oxides  
metal oxide/oxides

**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.

**Special remarks on fire hazards** : Not available.

**Special remarks on explosion hazards** : Not available.

## 6. Accidental release measures

**Personal precautions** : 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 (see Section 8).

**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 for cleaning up

**Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Place spilled material in a designated, labeled waste container. 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.

**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.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). 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. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept

## 7. Handling and storage

tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Storage

- : 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.

## 8. Exposure controls/personal protection

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/ m <sup>3</sup>	Other	ppm	mg/ m <sup>3</sup>	Other	ppm	mg/ m <sup>3</sup>	Other	Notations
Kaolin	US ACGIH 3/2012	-	2	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	2	-	-	-	-	-	-	-	[b]
	BC 4/2012	-	2	-	-	-	-	-	-	-	[b]
	ON 7/2010	-	2	-	-	-	-	-	-	-	[a]
	QC 9/2011	-	5	-	-	-	-	-	-	-	[c]
zinc oxide	US ACGIH 3/2012	-	2	-	-	10	-	-	-	-	[a]
	AB 4/2009	-	2	-	-	10	-	-	-	-	[b]
	BC 4/2012	-	2	-	-	10	-	-	-	-	[b]
	ON 7/2010	-	2	-	-	10	-	-	-	-	[a]
	QC 9/2011	-	5	-	-	10	-	-	-	-	[d]
Sulfur	AB 4/2009	-	10	-	-	-	-	-	-	-	
	US ACGIH 3/2012	1	6.1	-	-	-	-	-	-	-	[3]
Phthalic anhydride	AB 4/2009	1	6.1	-	-	-	-	-	-	-	
	BC 4/2012	1	-	-	-	-	-	-	-	-	[3]
	ON 7/2010	1	6.1	-	-	-	-	-	-	-	[3]
	QC 9/2011	1	6.1	-	-	-	-	-	-	-	[3]
Rubber, natural, Inhalable allergenic proteins	US ACGIH 3/2012	-	0. 0001	-	-	-	-	-	-	-	[1][3] [e]
	AB 4/2009	-	0.001	-	-	-	-	-	-	-	[1]
Rubber, natural, as total proteins	BC 4/2012	-	0.001	-	-	-	-	-	-	-	[1][3] [f]
	ON 7/2010	-	0. 0001	-	-	-	-	-	-	-	[1][3] [e]
Rubber, natural, Inhalable allergenic proteins distillates (petroleum), hydrotreated heavy naphthenic	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[e]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[g]
	ON 7/2010	-	5	-	-	10	-	-	-	-	[h]
	QC 9/2011	-	5	-	-	10	-	-	-	-	[h]
	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[e]
distillates (petroleum), hydrotreated light naphthenic	AB 4/2009	-	5	-	-	10	-	-	-	-	[g]
	ON 7/2010	-	5	-	-	10	-	-	-	-	[h]
	QC 9/2011	-	5	-	-	10	-	-	-	-	[h]
	US ACGIH 3/2012	-	5	-	-	-	-	-	-	-	[e]

[1]Absorbed through skin. [3]Skin sensitization

Form: [a]Respirable fraction [b]Respirable [c]Respirable dust. [d]fume [e]Inhalable fraction [f]Inhalable [g]Mist [h]mist

### Consult local authorities for acceptable exposure limits.

### Recommended monitoring procedures

- : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### Engineering measures

- : 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.

## 8. Exposure controls/personal protection

<b>Hygiene measures</b>	: 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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal protection</b>	
<b>Respiratory</b>	: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Hands</b>	: 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.
<b>Eyes</b>	: 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 or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
<b>Skin</b>	: 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.
<b>Environmental exposure controls</b>	: 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.
<b>Other protection</b>	: Not available.
<b>Personal protective equipment (Pictograms)</b>	: Not available.

## 9. Physical and chemical properties

<b>Physical state</b>	: Solid.
<b>Flash point</b>	: Not applicable.
<b>Burning time</b>	: Not available.
<b>Burning rate</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Flammable limits</b>	: Not available.
<b>Color</b>	: Gray. [Light]
<b>Odor</b>	: Not available.
<b>Taste</b>	: Not available.
<b>Molecular weight</b>	: Not applicable.
<b>Molecular formula</b>	: Not applicable.
<b>pH</b>	: Not applicable.
<b>Boiling/condensation point</b>	: Not applicable.
<b>Melting/freezing point</b>	: Not available.
<b>Critical temperature</b>	: Not available.
<b>Relative density</b>	: Not applicable.
<b>Vapor pressure</b>	: Not applicable.

## 9. Physical and chemical properties

<b>Vapor density</b>	: Not available.
<b>Volatility</b>	: Not available.
<b>Odor threshold</b>	: Not available.
<b>Evaporation rate</b>	: Not applicable.
<b>SADT</b>	: Not available.
<b>Viscosity</b>	: Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable.
<b>Ionicity (in water)</b>	: Not available.
<b>Dispersibility properties</b>	: Not available.
<b>Solubility</b>	: Not available.
<b>Physical/chemical properties comments</b>	: Not available.

## 10. Stability and reactivity

<b>Chemical stability</b>	: The product is stable.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: No specific data.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
1,3-diphenyl-2-thiourea	LD50 Oral	Rat	50 mg/kg	-
Phthalic anhydride	LD50 Oral	Rat	1530 mg/kg	-
distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
distillates (petroleum), hydrotreated light naphthenic	LC50 Inhalation Dusts and mists	Rat	2180 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-

**Conclusion/Summary** : Not available.

### Chronic toxicity

Not available.

**Conclusion/Summary** : Not available.

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Phthalic anhydride	Eyes - Moderate irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-
distillates (petroleum), hydrotreated heavy naphthenic	Skin - Moderate irritant	Rabbit	-	24 hours 0.5	-

## 11. Toxicological information

hydrotreated light naphthenic	Skin - Severe irritant	Rabbit	-	Milliliters 500 milligrams	-
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**Conclusion/Summary** : Not available.

### Sensitizer

Not available.

**Conclusion/Summary** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary** : Not available.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kaolin	A4	-	-	-	-	-
zinc oxide	A4	-	-	-	-	-
distillates (petroleum), hydrotreated heavy naphthenic	A4	-	-	-	-	-
distillates (petroleum), hydrotreated light naphthenic	A4	-	-	-	-	-

### Mutagenicity

Not available.

**Conclusion/Summary** : Not available.

### Teratogenicity

Not available.

**Conclusion/Summary** : Not available.

### Reproductive toxicity

Not available.

**Conclusion/Summary** : Not available.

**Synergistic products** : Not available.

## 12. Ecological information

**Ecotoxicity** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
1,3-diphenyl-2-thiourea	Acute LC50 67000 to 79000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
zinc oxide	Acute LC50 18900 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 0.042 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water Chronic NOEC 0.017 mg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata - Exponential growth phase	96 hours 72 hours
Sulfur	Acute EC50 >5000 ppm Fresh water	Daphnia - Daphnia magna	48 hours



## 12. Ecological information

Phthalic anhydride	Acute LC50 14 ppm Fresh water Acute EC50 147 µg/l Fresh water	Fish - Lepomis macrochirus Algae - Pseudokirchneriella subcapitata	96 hours 96 hours
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**Conclusion/Summary** : Not available.

**Persistence/degradability**

Not available.

**Conclusion/Summary** : Not available.

**Partition coefficient: n-octanol/water** : Not available.

**Bioconcentration factor** : Not available.

**Mobility** : Not available.

**Toxicity of the products of biodegradation** : Not available.

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

## 13. Disposal considerations

**Waste disposal** : 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.

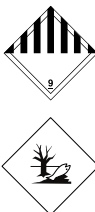
**Waste stream** : Not available.

**RCRA classification** : Not available.

Disposal should be in accordance with applicable regional, national and local laws and regulations.



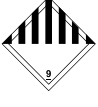

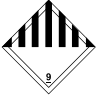

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>Mexico Classification</b>	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)	9	III		-



## 14. Transport information

<b>ADR/RID Class</b>	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)	9	III	 	<b>Tunnel code</b> (E)
<b>IMDG Class</b>	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)	9	III	 	-
<b>IATA-DGR Class</b>	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)	9	III	 	-

PG\* : Packing group

## 15. Regulatory information

**United States inventory (TSCA 8b)** : Not determined.

**WHMIS (Canada)** : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
Class D-2A: Material causing other toxic effects (Very toxic).

### Canadian lists

**Canadian NPRI** : The following components are listed: Zinc (and its compounds)

**CEPA Toxic substances** : None of the components are listed.

**Canada inventory** : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### International regulations

**International lists** :

- Australia inventory (AICS)**: Not determined.
- China inventory (IECSC)**: Not determined.
- Japan inventory**: Not determined.
- Korea inventory**: Not determined.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: Not determined.
- Philippines inventory (PICCS)**: Not determined.
- Taiwan inventory (CSNN)**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

## 15. Regulatory information

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

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

Health	3
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**References** : Not available.

**Other special considerations** : Not available.

**Date of printing** : 11/12/2014.

**Date of issue** : 11/12/2014.

**Date of previous issue** : No previous validation.

**Version** : 0.01

**Prepared by** : 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.