Conforms to HazCom 2012/ United States

Safety Data Sheet

Section 1. Identification

GHS product Identifier IRO™ and IRO™ HD

Other means of identification Not available

Relevant identified used of the substance or mixtures and uses advised against

Composite wrap used to provide resistance to external abrasion and wear.

Supplier's details

Polyguard Products, Inc.
4101 South Interstate 45
Ennis, TX 75119
Tel: (214) 515-5000

Emergency telephone number) with hours of operation)

CHEMTREC, US 1-800-424-9300 International 1-703-527-3887
(24/7)

Section 2. Hazards Identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazardous Communications Standard (49 CFR1910.1200). This SDS contains valuable information critical to the safe handling and proper use of the product and should be retained and available for employees and other users of this product.

Classification of the substance or mixture

Acute Toxicity- Oral- Category 4
Skin Corrosion/Irritation- Category 2
Serious Eye Damage/ Eye Irritation- Category 2B
Respiratory Sensitizer- Catergory 1
Skin Sensitizer- Category 1

GHS label elements

Hazard Pictogram

Signal word **DANGER**

Hazard statement

H302- Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H334- May cause allergy or asthema symptoms or breathing difficulties if inhaled.
H335- May cause an allergic skin reaction.

Precautionary statements

Prevention

P201- Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P280- Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P261- Avoid breathing dust/fume/gas/mist/vapor/spray.
P270- Do not eat, drink or smoke when using this product.
P264- Wash hands, forearms and our exposed areas thoroughly after handling.
P272- Contaminated work clothing should not be allowed out of the work place.

Response

P301 & P312-IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P302 & P352 IF ON SKIN: wash with plenty of soap and water.
P305 & P351 & P338- IF IN EYES: rinse caustiously with water for 20 minutes. Remove contacts lenses if present and easy to do. Continue rinsing.
P330- Rinse mouth.
P332 & P313- If skin irritation or rash occurs: Get medical attention
P337 & P313- If eye irritation persist: get medical advice/attention.
P342 & P311- If experiencing repiratory symptoms: Call a Posion Center or doctor.

Section 2. Hazards Identification

Response P362 & P363 – Wash contaminated clothing and wash before reuse.
Storage P405- Stored locked up
Disposal P501- Dispose of contents and container in accordance with local, regional and international regulations.
Hazards not otherwise classified None known

Section 3. Composition/Information on Ingredients

Substance/Mixture Mixture
Other means of identification Not available

Ingredient name	%	CAS #
PU Prepolymer	**18 - 29**	**59675-67-1**
MDI	**15 - 24**	**5873-54-1**
Antifoam	**<2**	**600-07-7**
DMDEE	**<2**	**6425-39-4**
Fiberglass	**46 - 60**	**65997-17-3**

The exact percentage (concentration) in the composition has been withheld as a trade secret.
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 if symptoms occur.
Inhalation Remove victim to fresh air and keep at rest position comfortable for breathing. If breathing is difficult, immediately get medical assistance.
Skin contact Immediately remove contaminated clothing. Rinse skin with water or shower. Wash with plenty of soap and water. An alcohol based hand santizer can help remove resin from skin.Wash clothing before reuse. If skin irritation or rash occurs: Get medical attention.
Ingestion Drink plenty of water. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed
Eye contact May cause very slight, temporary corneal damage.
Inhalation At room temperature vapors are minimal. May cause sensation by inhalation and very low concentrations may cause asthmatic signs and symptoms in hypersensitive persons.
Skin contact May cause allergic skin reaction in susceptible individuals.
Ingestion Small amounts swallowed incidental to normal handling are not likely to cause injury.
Over-exposure signs/symptoms
Eye contact May aggravate those with pre-existing eye conditions.
Inhalation May aggravate those with pre-existing respiratory conditions
Skin contact May aggravate those with pre-existing skin conditions.
Ingestion No known significant effects or critical hazards

Indication of immediate medical attention and special treatment needed, if necessary.
Notes to physician: Treat symptomatically.
Specific treatments No specific treatment

Section 5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media	Use water fog, dry chemical extinguishers, foam or carbon dioxide.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Not flammable, but will support combustion, self-extinguishing.
Hazardous thermal decomposition products	Under fire conditions, emitted vapors are extremely irritating when inhaled.
Special protective equipment	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in a positive pressure mode.
Special protective actions for fire fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident is there is a fire. No action shall be taken involving any personal risks or without suitable training.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures.

For non emergency personal	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk thru spilled material. Shut off all ignition sources. No smoking, flares or flames in hazard area.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."
Enviromental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods and materials for containment and cleaning up

Spills	Wear proper personal protective clothing and equipment. Allow product to cure and dispose of in normal manner in accordance to all applicable state, federal and local laws.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid inhalation of aerosol, mist, vapor, spray, fume or vapor. Use under well-ventilated conditions.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Wash contaminated clothing before reuse. See 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. Optimal storage condition temperature between 40-80 ºF (4-20 ºC). Keep container tightly closed and sealed until ready to use. Do not store in unlabeled containers. Empty containers contain residual product which may exhibit hazards of the product. Do not reuse empty containers.

Section 8. Exposure Controls/Personal Protection

Occupational exposure limits

Ingredient name	Exposure limits
MDI	**ACGIH TLV** TWA-**0.005 ppm** **OSHA PEL** TWA:0.02 ppm ceiling

Appropriate engineering controls If user operations generates dust, fumes, gas, vapor or mist, use process enclosures, or local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory level.

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

Hygiene measure 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. 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 risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases and dusts.

Skin Protection

Hand protection Chemical- resistant, imprevious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection Personal protective equipment for the body should be selected based on the task being preformed 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 preformed 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 Fiberglass cloth coated with white or black tacky resin.

Odor Very slight

Odor threshold Not available

pH Not applicable

Melting point Resin only: < 15ºC (< 59 ºF)

Boiling point Resin decomposed > 200 ºC (< 392 ºF)

Flash Point 218ºC (424 ºF)

Evaporation rate Not applicable

Flammability (solid, gas) Not determined

Lower & upper explosive (flammable) limits Not determined

Vapor density Not determined

Vapor pressure 0.0002 mm Hg @ 24 ºC

Section 9. Physical and Chemical Properties

Relative density	Resin only 1.210 g/cm^{-3}
Solubility in water	Insoluble, reacts with water to liberate co_2 gases
Partition coefficient: n- octanol/water	Not available
Auto- ignition temperature	Not determined
Decomposition temperature	Decomposition >200 ºC (392ºF)
Viscosity	45,000 to 70,000 cps (age dependent)
Specific gravity	Resin 1.133

Section 10. Stability and Reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stabile under recommended handling and storage conditions (See section 7). Hazardous polymerization will not occur.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reaction will not occur.
Conditions to avoid:	Elevated temperatures, moisture contamination may form CO_2 gas pressure.
Incompatible materials	Reactive or incompatible with the following materials: Strong bases, alcohols, metal compounds, surface active agents.
Hazardous decomposition products	None

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
MDI	LD_{50} Oral	Rat	> 2000 mg/kg	-
DMDEE	LD_{50} Oral	Rat	2025 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Dose	Exposure
MDI	LD_{50} Skin	Rabbit	> 200 mg/kg	-
DMDEE	LD_{50} Skin	Rabbit	3058 mg/kg	-

Sensitization	There is no data available
Mutagenicity	There is no data available
Carcinogenicity	There is no data available
Reproductive toxicity	There is no data available
Teratogenicity	There is no data available
Specific target organ toxicity (single exposure)	There is no data available
Specific target organ toxicity (repeated exposure)	There is no data available
Aspiration hazard	There is no data available
Information on the likely routes of exposure	Routes of entry anticipated: skin, eye, ingestion, inhalation.

Section 11. Toxicological Information

Potential acute health effects

Eye contact Causes serious eye irritation. Symptoms may include tearing, reddening and swelling. If left untreated may cause very slight corneal damage.

Inhalation Symptoms of irritation of the mucous membrane in the respiratory tract may include runny nose, sore throat, coughing, chest discomfort or shortness of breath. Very low concentrations may cause asthmatic signs and symptoms in hypersensitive persons.

Skin contact May cause skin irritation or allergic reaction in susceptible individuals with reddening, swelling, rash, scaling or blistering. Cured resins are difficult to remove.

Ingestion May be harmful is swallowed. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Small amounts swallowed incidental to normal handling are not likely to cause injury.

Delayed and immediate effects and chronic effects from short- and long-term exposure

Short term exposure

Potential immediate effects No known significant effects or critical hazards

Potential delayed effects Respiratory/dermal sensitizer- skin sensitization may develop from prolonged, repeated skin contact. There is equivocal evidence from animal studies that respiratory sensitization can be provoked through repeated contact with diisocyanates.

Long term exposure

Potential immediate effects No known significant effects or critical hazards

Potential delayed effects Respiratory/dermal sensitizer- skin sensitization may develop from prolonged, repeated skin contact. There is equivocal evidence from animal studies that respiratory sensitization can be provoked through repeated contact with diisocyanates.

Potential chronic health effects

General No known significant effects or critical hazards

Carcinogenicity Empirical data on effects on humans. Carcinogenicity or MDI-industrial experience in humans has not shown any links between MDI based products exposure and cancer development.

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 There is no data available

Section 12. Ecological Information

Toxicity	There is no data available
Persistence and degradability	Not applicable
Bio accumulative potential	Movement in the environment is expected to be limited due to the formation of insoluble polymers. Partitioning from water to n-octanol is not applicable. In the aqueous medium formation of insoluble and chemically inert polyureas will occur. No appreciable volatilization from water to air is expected.
Mobility in soil	No Impact
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. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Section 14. Transportation Information

AERG: Not regulated in transportation

Regulatory Information:

Section 15. Regulatory Information

U.S. Federal regulations: **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8 b): all components are listed or exempted

Composition/information on ingredients

SARA 304 RQ	Not applicable
SARA 311/312	Not applicable
SARA 313	Not applicable

State regulations

California Prop.65 None of the components are listed on the Prob 65 list dated 1-3-2020

16. Other Information

Date of revision	**5-7-2020**
Date of previous issue	**6-7-2018**
Revisions	**Update product composition**
Version	**2**
Prepared by	**C. Rogalski**

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