

1.0 Identification

1.1 Product Identifier

Product Name: Poloplaz Express/Zenith Crosslinker

Application of the substance/the preparation: Crosslinker for Water Based Wood Floor Coatings

1.2 Relevant identified uses of the substance or mixture: Finishes, Coatings and Related Materials:
For Professional Use Only.

1.3 Supplier:

Poloplaz

1 Paradise Park Road

Jacksonville, AR 72076

Telephone: (501) 985-1172

www.poloplaz.com

1.4 Emergency contact:

Infotrac #: 1-800-535-5053

2.0 Hazards Identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Classification:

SERIOUS EYE DAMAGE/EYE IRRITATION	Category 1
SKIN SENSITIZATION	Category 1
GERM CELL MUTAGENICITY	Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) ORAL	Category 2

GHS Label element

Hazard Pictograms:



Signal Word: Danger

Hazard Statements:

H318: Causes serious eye damage

H317: May cause an allergic skin reaction

H341: Suspected of causing genetic defects

H373: May cause damage to organs through prolonged or repeated exposure if swallowed

Precautionary Statements

Prevention:

- P102: Keep out of reach of children
- P103: Read label before use
- 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: < 1 hour (breakthrough time): butyl rubber (0.5 mm) Wear eye protection/face protection
- P260: Do not breathe, mist, vapors, spray
- P264: Wash thoroughly after handling
- P262: Do not get in eyes, on skin, or on clothing.
- 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 advice/attention
- P302 + P352 + P363: IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.
- P333 + P313: If skin irritation or rash occurs: Get medical attention.
- P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage:

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up

Disposal:

- P501 Dispose of contents/container to an approved waste disposal plant.

Additional Information:

HMIS Health-3 Flammability-1 Physical Hazards-1 *Personal Protection

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

3. Composition/information on ingredients:

Polyfunctional Aziridine Crosslinker	CAS 64265-57-2	% wt, 50-100%
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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.

4. First Aid Measures:

Eye Contact

Get immediate medical attention. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Inhalation

Get medical attention immediately. Call a poison center or physician. 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. 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.

Skin Contact

Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reused. Clean shoes thoroughly before reuse.

Ingestion (Swallowed)

Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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 damage.

Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: May cause an allergic skin reaction.

Ingestion: May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following;

- Pain
- Watering
- Redness

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following:

- Pain or irritation
- Redness
- Blistering may occur

Ingestion: Adverse symptoms may include the following:

- Stomach pains

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: No specific treatment.

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.

See toxicological information (Section 11)

5. Fire-Fighting Measures

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

Specific hazards arising from the chemical: In a fire or if heated, pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water

contaminate with this material must be contained and prevented from being discharged to any waterway, sewer, or drain.

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO₂), nitrogen oxides, (dense) black smoke, aldehydes, organic acids

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. Not action shall be taken involving any personal risk or without suitable training.

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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures.

For non-emergency personnel: No action shall be taken involving any person risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. 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.

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.

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large 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.

7. Handling and storage

Precautions for safe handling

Protective measures: 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. 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 release to the environment. If during normal use the material presents a respiratory hazard, used only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material; keep 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 between the following temperatures: 5 to 40 °C (41 to 104 °F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. 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. Store in original container, protected from direct sunlight.

8. Exposure controls/Personal Protection

Control parameters

Occupational exposure limits: None

Appropriate engineering controls: If user operations generate dust, fumes, gas, vapor or mist, 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. 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 dust. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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. < 1 hour (break through time): butyl rubber (0.5 mm)

Bodily 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 risk involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed 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.

9. Physical and chemical properties

Appearance	Light yellow liquid, amine-like odor
pH	Not available
Flashpoint	487.4 °F Setaflash
Autoignition Temperature	Not available
Boiling range	Not available
Flammability Limit in Air	
Lower	Not available
Upper	Not available
Specific Gravity	1.08
Solubility	Partially soluble (water)
Evaporation Rate	Not available
Vapor Pressure	Not available
Vapor Density	Not available

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, azardous polymerization does not occur.

Conditions to Avoid: No specific data

Incompatible materials: Acids, Strong oxidizing agents.

Hazardous Decomposition Products: No specific data

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Polyfunctional Aziridine Crosslinker

Oral LD50 2000 mg/kg (rat)

Irritation/Corrosion

Polyfunctional Aziridine Crosslinker

Skin-Erythema/Eschar (rabbit)	Score-0.7	Exposure, 4h , 0.5g	
Eyes-Cornea opacity (rabbit)	Score-3.4	Exposure-0.1ml	Observation-24-72h
Eyes-Iris lesion (rabbit)	Score-1.1	Exposure-0.1ml	Observation-24-72h
Eyes-redness of the conjunctivae (rabbit)	Score-2.8	Exposure-0.1ml	Observation-24-72h
Eyes-Edema of the conjunctivae (rabbit)	Score-4.0	Exposure-0.1ml	Observation-24-72h

Sensitization

Polyfunctional Aziridine Crosslinker

Route of Exposure (Skin) (species) mouse Result-sensitizer

Mutagenicity

Polyfunctional Aziridine Crosslinker

Test	Experiment	Result
OECD 471 Bacterial Reverse Mutation Test	Experiment in vitro Subject: Bacteria	Positive
OECD 473 in vitro Mammalian Chromosomal Aberration Test	Experiment in vitro Subject: Mammalian-Animal Cell: Somatic	Positive
OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment in vivo Subject: Mammalian-Animal Cell: Somatic	Positive

Carcinogenicity-Not available

Reproductive toxicity-Not available

Teratogenicity-Not available

Specific target organ toxicity (single exposure)-Not available

Specific target organ toxicity (repeated exposure)

Polyfunctional Aziridine Crosslinker:

Category 2 Route of exposure (oral) Target organs-not determined available

Aspiration hazard-Not Available

Information on likely routes of exposure:

Primary Routes of Entry Skin contact, Ingestion, Inhalation, Eye Contact

Potential acute health effects

Eye contact: Causes serious eye damage

Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: May cause an allergic skin reaction.

Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

- Pain
- Watering
- Redness

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following:

- Pain or irritation
- Redness
- Blistering may occur

Ingestion: Adverse symptoms may include the following:

- Stomach pains

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects

Polyfunctional Aziridine:

Result Sub-acute LOAEL Oral, Species (rat-male, female), Dose 100 mg/kg day

General: May cause damage to organs through prolonged or repeated exposure if swallowed. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: Suspected of causing genetic defects.

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-Oral ATE value 2020.2 mg/kg

12. Ecological Information:

Toxicity-Polyfunctional Aziridine Crosslinker

Result	Species	Exposure
Acute EC50 3.8 mg/l Fresh water	Algae	72 hours
Acute EC50 5.5 mg/l Fresh water	Algae	72 hours
Acute EC50 81 mg/l Fresh water	Daphnia-Daphnia Magna	48 hours
Acute EC50 >1000 mg/l Fresh water	Micro-organism	3 hours
Acute LC50 >100 mg/l Fresh water	Fish-Cyprinus carpio	96 hours
Acute NOEC 0.92 mg/l Fresh water	Algae	72 hours
Acute NOEC 0.92 mg/l Fresh water	Algae	72 hours
Acute NOEC 22 mg/l Fresh water	Daphnia-Daphnia Magna	48 hours
Acute NOEC 100 mg/l Fresh water	Fish-Cyprinus carpio	96 hours

Persistence and degradability-Polyfunctional Aziridine Crosslinker

Test	Result
OECD 301B	1%-29 days
Ready Biodegradability-CO ₂ Evolution Test	

Bioaccumulative potential-Polyfunctional Aziridine Crosslinker

Log P _{ow}	BCF	Potential
-1.4	---	low

Soil/water partition coefficient (K_{oc}): Not Available

Other Adverse Effects: No known significant effects or critical hazards.

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.

14. Transport Information

DOT: Not regulated

Canada (TDG): Not regulated

IATA: Not regulated

IMDG: Not regulated

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 to Annex II of MARPOL 73/78 and the IBC code: Note available.

15. Regulatory information

International Inventories

TSCA: United States Yes-All components are listed or exempt
DSL: Canada Yes-All components are listed or exempt

Federal Regulations

Clean Air Act Section 112 (b): Aziridine, 2-methyl- CAS 75-55-8 % wt-0.0001%

SARA 311/312 categorization

Polyfunctional Aziridine Crosslinker-99%

Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No
Immediate (acute) Health Hazard	Yes
Delayed (chronic) Health Hazard	Yes

California Prop 65

Warning: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

Aziridine, 2-methyl- CAS 75-55-8 % wt-0.0001%

16. Other information

We recommend containers be either professionally reconditioned for reuse by certified firms or properly disposed of by certified firms to help reduce the possibility of an accident. Disposal of containers should be in accordance with applicable Federal, State, and Local laws and regulations. Empty drums should not be given to individuals.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or

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correctness.

The conditions of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.