

Cryl-A-Bond SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier: Cryl-A-Bond

Recommended use: Floor Surfacing

Manufacturer Name: Dur-A-Flex, Inc.
95 Goodwin Street
East Hartford, CT 06108

Telephone number: 860-528-9838

Emergency phone number: 1-800- 424-9300 (CHEMTREC)

Date of Preparation: July 21, 2014

2. HAZARD(S) IDENTIFICATION

Classification:

Physical	Health
Flammable Liquid Category 2	Acute Toxicity Category 4 – Inhalation Eye Irritation Category 2 Skin Irritation Category 2 Skin Sensitization Category 1 Respiratory Sensitization Category 1 Specific Target Organ Toxicity – Single Exposure Category 3 (Respiratory Irritation) Specific Target Organ Toxicity – Repeat Exposure Category 2

Labeling:

Danger!



Hazard statement(s)

Highly flammable liquid and vapor.
Harmful if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause allergy or asthma symptoms or

Precautionary statement(s)

Keep away from heat, sparks, open flames, and hot surfaces.
No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment
Use explosion-proof electrical, ventilating and lighting equipment.

breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to lungs through prolonged or repeated inhalation exposure.

Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe mist, vapors or spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wash thoroughly after handling.
Wear protective gloves, eye protection and face protection.
In case of inadequate ventilation wear respiratory protection.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER if you feel unwell.
Get medical attention if you feel unwell.
In case of fire: Use foam, carbon dioxide and dry chemical to extinguish.
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Polyisocyanate based on MDI	Proprietary	30-60%
Methyl Methacrylate	80-62-6	10-50%
4,4'-Diphenylmethane diisocyanate	101-68-8	5-20%
Polymethylene polyphenyl isocyanate	9016-87-9	1-15%
Benzene, 1,1'-methylenebis(isocyanato-	26447-40-5	1-5%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Immediately remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention. Asthma-like symptoms may develop immediately or delayed up to several hours.

Skin contact: Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. If rash or irritation develops, get medical attention. Launder clothing before re-use.

Eye contact: Immediately flush with large quantities of water for 15 minutes, holding the eyelids apart. Get medical attention if irritation develops.

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. Get medical attention.

Most important symptoms/effects, acute and delayed: Irritating to eyes, skin and respiratory system. May cause allergic skin and respiratory reaction. Symptoms may be delayed. Individuals sensitized to isocyanates may have a life-threatening allergic reaction.

Indication of immediate medical attention and special treatment, if necessary: If respiratory sensitization occurs, get immediate medical attention. Symptoms may be delayed for several hours after exposure. Respiratory sensitization may be life threatening.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use foam, carbon dioxide and dry chemical. Cool fire exposed containers with water.

Specific hazards arising from the chemical: Vapors are heavier than air and may travel to ignition source and flash back. Heat of fire may cause an exothermic auto polymerization reaction. This product reacts with water producing heat and gases. Reaction may be violent. Closed containers may rupture when exposed to extreme heat or contaminated with water. Combustion may produce isocyanate vapors and other irritating, highly toxic gases. Exposure to heated diisocyanates can be extremely dangerous.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Do not allow run-off from fire fighting to enter drains or water courses. Decontaminate equipment and protective clothing before reuse.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as described in Section 8. Isolate the area and prevent access. Ventilate and remove ignition sources. Provide explosion-proof ventilation.

Environmental precautions: Avoid release to the environment. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Contain and collect with an inert absorbent. Neutralize with a decontamination solution made up of 90% water and 10% concentrated ammonia and 2% detergent. Use a 10 to 1 ratio. Wait 15 minutes. Collect into a suitable container. Repeat until the surface is completely decontaminated. Cover loosely with lid and allow container to vent for 48 hours to allow carbon dioxide to escape.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not breathe vapors or mists. Use only with adequate ventilation. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties are not adequate to prevent overexposure from inhalation. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating.

Conditions for safe storage, including any incompatibilities: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Protect from physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

4,4'-Diphenylmethane diisocyanate	0.005 ppm TWA ACGIH TLV 0.02 ppm Ceiling OSHA PEL
Methyl Methacrylate	100 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV 100 ppm ACGIH TLV STEL
Polyisocyanate based on MDI	None Established
Polymethylene polyphenyl isocyanate	None Established
Benzene, 1,1'-methylenebis(isocyanato-	None Established

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits.

Personal Protective Equipment:

Respiratory protection: If the exposure limits are exceeded or if exposure levels are unknown, an approved positive pressure air supplied respirator with a full facepiece or air supplied hood should be used. In some situations where exposure levels are known to be below 10 times the exposure limit an air purifying respirator (organic vapor with particulate prefilter) can be used. A change schedule for cartridges is required. Selection and use of respiratory equipment must be in accordance with appropriate regulations and good industrial hygiene practice.

Skin protection: Wear impervious gloves such as nitrile rubber.

Eye protection: Chemical safety goggles recommended.

Other: Impervious clothing as needed to prevent contact. A safety shower and eye wash should be available in the immediate work area.

Medical Surveillance: A pre-placement physical should be given to all employees that will work with isocyanates. Employees with a prior isocyanate sensitization should be excluded from working with this product. A history of adult asthma, eczema and respiratory allergies are possible reasons for excluding or restricting the employee from working with this product. A comprehensive annual medical surveillance program should be instituted for all employees who work with isocyanates. Once a worker has been diagnosed as sensitized, no further exposure can be permitted.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Dark amber liquid

Odor: Acrid fruity odor

Odor threshold: 0.384 (MDI)	pH: Not applicable
Melting Point/Freezing Point: Not available	Boiling Point: 212°F / 100°C (methyl methacrylate)
Flash point: 50 °F / 10°C	Evaporation rate: >1 (butyl acetate = 1)
Flammability (solid, gas): Not flammable	
Flammable limits: LEL: 2.1% (methyl methacrylate)	UEL: 12.5% (methyl methacrylate)
Vapor pressure: 35 mmHg @ 20°C (methyl methacrylate)	Vapor density: >1
Relative density: ~1	Solubility(is): Reacts in Water
Partition coefficient: n-Octanol/water: Not available	Auto-ignition temperature: Not available

Decomposition temperature: Not available	Viscosity: Not available
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10. STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: Stable. The product is unstable at elevated temperatures and pressures.

Possibility of hazardous reactions: Contact with water or temperature greater than 400°F may cause polymerization.

Conditions to avoid: Avoid contact with heat, sparks and flames. Protect from freezing.

Incompatible materials: Avoid contact with water, alcohols, amines, acids, strong bases, peroxides, and polymerization catalysts. May damage plastics and rubber.

Hazardous decomposition products: Thermal decomposition may produce carbon and nitrogen oxides, hydrocarbons, hydrogen cyanide, and aromatic isocyanates.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of vapors or mists may cause mucous membrane and respiratory irritation. 4,4'-Diphenylmethane diisocyanate has been shown to cause respiratory sensitization. Symptoms include dryness of the throat, tightness of chest and difficulty in breathing. Symptoms may be delayed for several hours after exposure. This product can produce asthmatic sensitization upon a single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. The allergic respiratory reaction may be life threatening.

Ingestion: Swallowing may cause gastrointestinal irritation abdominal pain, nausea, vomiting and diarrhea.

Skin contact: Skin contact may cause irritation with redness, itching and swelling. May cause allergic skin reaction. Methyl methacrylate has been shown to cause severe irritation when tested undiluted on rabbit skin. 4,4'-Diphenylmethane diisocyanate has been shown to be irritating to rabbit skin. Animal tests have indicated that respiratory sensitization can result from skin contact with isocyanates. Cases of contact dermatitis has been reported in workers exposed to methyl methacrylate.

Eye contact: May cause irritation with redness, tearing, stinging and swelling. 4,4'-Diphenylmethane diisocyanate has been shown to cause irritation to rabbit eyes. Methyl methacrylate has been shown to cause mild irritation to the conjunctiva in animal studies.

Chronic effects from short- and long-term exposure: Prolonged exposure to 4,4'-diphenylmethane diisocyanate may cause chronic irritation, decreased lung function and lung damage and conjunctivitis. 4,4'-Diphenylmethane has been shown to cause damage to the olfactory epithelium after repeated inhalation in a repeat dose study in rats. In subchronic inhalation studies with methyl methacrylate, systemic toxic effects were seen in rats to the liver, kidney, brain, spleen and bone marrow >1000 ppm. Oral administration of methyl methacrylate to rats resulted in a NOAEL of 200 mg/kg.

Reproductive Toxicity: 4,4'-Diphenylmethane diisocyanate has been shown to cause developmental toxicity only at doses that were maternally toxic. Methyl methacrylate did not cause reproductive effects on male fertility when animals were exposed to 9000 ppm. No teratogenicity, embryotoxicity or fetotoxicity has been observed at exposure levels up to and including 2028 ppm.

Sensitization: 4,4'-Diphenylmethane diisocyanate has been shown to cause sensitization in a skin sensitization study with guinea pigs. Methyl methacrylate has been shown to cause sensitization in a mouse local lymphnode assay.

Mutagenicity: 4,4'-Diphenylmethane diisocyanate was negative the in the AMES test (with/without metabolic activation) and in an in vivo micronucleus assay. Methyl methacrylate was negative in sister chromatid exchange assay in mammalian cells and in a vivo chromosome aberration assay.

Carcinogenicity: None of the other components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Polyisocyanate based on MDI: No acute toxicity data available.

Methyl Methacrylate: Oral rat LD50 7800 mg/kg; Inhalation rat LC50 3750 mg/L/8 hr; Dermal rabbit LD60 >5000 mg/kg

4,4'-Diphenylmethane diisocyanate: Oral rat LD50 >2,000 mg/kg; Inhalation rat LC10 > 2.24 mg/L/1 hr; Dermal rabbit LD50 >9,400 mg/kg.

Polymethylene polyphenyl isocyanate: No toxicity data available

Benzene, 1,1'-methylenebis(isocyanato-: No toxicity data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Polyisocyanate based on MDI: No data available

Methyl Methacrylate: 96 hr LC50 Pimephales promelas 130 mg/L; 24 hr LC50 daphnia magna 1760 mg/L

4,4'-Diphenylmethane diisocyanate: 96 hr LC50 Oryzias latipes > 3000 mg/L; 48 hr EC50 daphnia magna 129.7 mg/L; 72 hr EC50 Desmodesmus subspicatus > 1640 mg/L (structurally similar chemical)

Polymethylene polyphenyl isocyanate: No data available

Benzene, 1,1'-methylenebis(isocyanato-: No data available

Persistence and degradability: 4,4'-Diphenylmethane diisocyanate is not readily biodegradable. Methyl methacrylate is readily biodegradable.

Bioaccumulative potential: 4,4'-Diphenylmethane diisocyanate has a calculated BCF of 200. Methyl methacrylate has a BCF of 2.97.

Mobility in soil: Methyl methacrylate has a high mobility in soil.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations. Incineration is the preferred method.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	UN1247	Methyl Methacrylate Monomer, Stabilized	3	II	None
TDG	UN1247	Methyl Methacrylate Monomer, Stabilized	3	II	None
IMDG	UN1247	Methyl Methacrylate Monomer, Stabilized	3	II	None
IATA	UN1247	Methyl Methacrylate Monomer, Stabilized	3	II	None

*This product qualifies for Limited Quantity for any package less than 0.3 gallons.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. REGULATORY INFORMATION

CERCLA: This product has a Reportable Quantity (RQ) of 2,000 lbs. (based on the RQ for Methyl Methacrylate of 1000 lbs). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under applicable federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health, Chronic Health, Fire Hazard, Reactive Hazard

SARA 313 Information: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Methyl Methacrylate	80-62-6	10-50%
4,4'-Diphenylmethane diisocyanate	101-68-8	5-20%
Polymethylene polyphenyl isocyanate	9016-87-9	1-15%

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

Canadian CEPA: All of the ingredients in this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Class B-2 (Flammable Liquid), Class D Division 2 Subdivision A (Very Toxic Material Causing other Toxic Effects), Class D Division 2 Subdivision B (Toxic Material Causing other Toxic Effects)

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 2 Flammability = 3 Instability = 2
HMIS Rating: Health = 2* Flammability = 3 Physical Hazard = 2

SDS Revision History: Converted to GHS format. All sections revised.

Date of preparation: July 17, 2014

Date of last revision: New SDS

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND USE.