Monobond Resin (Part A)

SECTION 1. IDENTIFICATION

Product Identifier	Monobond Resin (Part A)
Other Means of Identification	N/A
Product Family	Epoxy Resins
Recommended Use	MONOBOND is a two-component, epoxy-bonding agent. It is recommended for adhering concrete underlayments, concrete toppings and certain composition floors.
Restrictions on Use	This product is designed as part of a system in 2 parts and must be mixed, according to manufacturer's instructions, with the appropriate partner product before use.
Manufacturer / Supplier	R&D Technical Solutions Ltd., 7000 Davand Drive, Mississauga, ON, L5T 1J5, 905-795-9900, www.rdsolutions.ca
Emergency Phone No.	CANUTEC, 1-613-996-6666, 24 HR
Date of Preparation	June 08, 2015

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquid - Category 2; Serious eye damage/eye irritation - Category 2A; Specific target organ toxicity (single exposure) - Category 3; Aquatic hazard (Acute) - Category 3; Aquatic hazard (Chronic) - Category 2

GHS Label Elements

Signal Word:
Danger
Hazard Statement(s):

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

P210	Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, lighting, and other equipment.
P243	Take precautionary measures against static discharge.
P264	Wash hands and skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection/face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/attention.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	78-85	N/A
Acetone	67-64-1	15-22	N/A

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Call a Poison Centre or doctor if you feel unwell or are concerned.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If skin irritation occurs get medical advice/attention. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. After rinsing for 1-2 minutes: remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice/attention.

Ingestion

Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell or are concerned.

First-aid Comments

If exposed or concerned, get medical advice/attention.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: skin sensitizer. May cause an allergic skin reaction in some people. In sensitized people, exposure to a very small amount of product can cause symptoms including wheezing, difficult breathing, sneezing and runny or blocked nose. Can cause death. Symptoms can develop immediately following exposure or hours later. Repeated exposure will make the reaction worse.

Immediate Medical Attention and Special Treatment

Target Organs

Skin.

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

Dermatitis, skin allergies.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam. Special "alcohol resistant fire-fighting foams". Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

Not applicable. Do not use direct water stream - may cause fire to spread.

Specific Hazards Arising from the Chemical

Closed containers may rupture violently when heated releasing contents. Contain fire water runoff if possible - may cause environmental damage. See Section 9 (Physical and Chemical Properties) for flash point and explosive limits. Very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Dike and recover contaminated water for appropriate disposal.
Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn. See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway. Minimize the use of water to prevent environmental contamination.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Dike spilled product to prevent runoff. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Warm soapy water or non-flammable solvent may be used to clean residual or spill areas.

Other Information

Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Prevent all skin contact. Do not get in eyes. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact. Only use where there is adequate ventilation. Prevent accidental contact with incompatible chemicals. Prevent uncontrolled release of product. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Do not weld, cut or perform hot work on empty container until all traces of product have been removed. Keep containers tightly closed when not in use or empty. General hygiene considerations: it is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Do NOT smoke in work areas. Do NOT eat, drink or store food in work areas. Wash hands thoroughly after handling this material.

Conditions for Safe Storage

Store in an area that is: cool, ventilated, out of direct sunlight and away from heat and ignition sources. Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). See advice on temperature in Conditions to Avoid in Section 10 (Stability and Reactivity) to determine suitable storage temperature. Store in a closed container. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**

Acetone	250 ppm	500 ppm	750 ppm			

Consult local authorities for provincial exposure limits. ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. STEL = Short-term Exposure Limit.

Appropriate Engineering Controls

General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles. Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Suitable materials are: butyl rubber, neoprene rubber.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless - yellow liquid.
Odour	Phenolic
Odour Threshold	3.6 - 653 ppm (estimated) (Acetone)
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	> 56 ºC (Acetone)
Flash Point	< 5 ºC (Acetone)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	12.8% (Acetone) (upper); 2.5% (Acetone) (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.070 at 20 ºC
Solubility	Not available in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic)

Other Information

Physical State	Liquid
Molecular Weight	Not available
Bulk Density	1.1 kg/L (66.8 lb/ft3) (estimated)
Saturated Vapour Concentration	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use. Not sensitive to mechanical impact.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

High temperatures. Prolonged exposure to high temperatures.

Incompatible Materials

Polymerizes on contact with: amines (e.g. triethylamine).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Skin contact; eye contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Acetone	30000-32000 ppm (rat) (4-hour exposure)	1750-6700 mg/kg (rat)	> 7426 mg/kg (rabbit) 24 hours
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	Not available	> 15,000 mg/kg (rat)	23,000 mg/kg (rabbit)

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

There is limited evidence of mild irritation. There is limited evidence of skin corrosion. (Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers)

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials. (Acetone)

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No information was located.

Skin Absorption

May be harmful based on limited evidence. (Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers)

Ingestion

Not harmful based on limited evidence.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Conclusions cannot be drawn from the limited studies available. Except for skin sensitization, repeated exposures to epoxy resins of this type are not anticipated to cause any significant adverse effects. (Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers)

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Human experience shows an allergic skin reaction (skin sensitization) in rare cases following exposure at work. In sensitized people, contact with a very small amount of product can cause an allergic reaction. Symptoms include redness, rash, itching and swelling. This reaction can spread from the hands or arms to the face and body. Repeated exposure will make the reaction worse. (Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers)

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Acetone		A4		
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	Group 3	Not Listed	Not Listed	

Not known to cause cancer.

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Has been associated with: reduced male and female fertility. (Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers)

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Harmful to aquatic life, based on chronic toxicity tests. (Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers)

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Acetone	6,100 mg/L (Oncorhynchus mykiss (rainbow trout); 48-hour)	7,630 mg/L (Daphnia magna (water flea); 48-hour)		Not available
Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers	2 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; semi-static)	1.8 mg/L (Daphnia magna (water flea); 48-hour; static)	11 mg/L (Selenastrum capricornutum (algae); 72-hour; fresh water; static)	

Persistence and Degradability

No information was located.

Bioaccumulative Potential

This product or its degradation products have the potential to bioaccumulate based on the n-octanol/water partition coefficient (Log Kow). N-Octanol/Water Partition Coefficient (Log Kow): min. 3. (Propane, 2,2-bis[p-(2, 3-epoxypropoxy)phenyl]-, polymers)

Mobility in Soil

Studies are not available.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of or recycle empty containers through an approved waste management facility. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1866	Resin Solution	3	II
US DOT	UN1866	RESIN SOLUTION	3	II

Environmental Hazards Marine Pollutant

Special Precautions for User Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS Classification

Class D2B

D2B - Toxic (Skin irritant; Eye irritant; Skin sensitization)

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 2** **Flammability - 3** **Instability - 0**

SDS Prepared By Compliance & Documentation Coordinator

Phone No. 905-795-9900

Date of Preparation June 08, 2015

Revision Indicators Not applicable.
The following MSDS content was changed on June 18, 2015:
Section 11 - Toxicological Information; LC50/LD50 values.
The following SDS content was changed on June 18, 2015:
SECTION 12. ECOLOGICAL INFORMATION; Chronic Aquatic Toxicity.
The following MSDS content was changed on June 18, 2015:
Section 11 - Toxicological Information; LC50/LD50 values.
The following SDS content was changed on June 18, 2015:
SECTION 12. ECOLOGICAL INFORMATION; Acute Aquatic Toxicity.

Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists

IARC = International Agency for Research on Cancer
NFPA = National Fire Prevention Association
NIOSH = National Institute for Occupational Safety and Health
N/A = Not Available

References

CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Accelrys, Inc. Available from Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

Additional Information

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