

Surface Bonder Xi, RPT-01, Trim Bonder TR30/TR40

N/Av

Rodding Compound RD50, Sink Bonder SK11

MSDS Preparation Date (mm/dd/yyyy): 12/06/2012

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MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier : **Surface Bonder Xi, RPT-01, Trim Bonder TR30/TR40
Rodding Compound RD50, Sink Bonder SK11**

Product Code(s) : Not available.

Product Use : Bonding agent for acrylic composite, polyester composite, quartz composite, natural stone, FRP/GRP and steel reinforcing rods.

Chemical Family : Mixture.

Supplier's name and address: **Integra Adhesives**
Unit 4
33759 Morey Avenue
Abbotsford, BC, Canada
V2S 2W5

Manufacturer's name and address: **Refer to Supplier**

Information Telephone # : (604) 850-1321

24 Hr. Emergency Tel # : (604) 986-4617

SECTION 2 - HAZARDS IDENTIFICATION

Classification : Part A: WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS Classification:
Class B2 (Flammable Liquids)
Class D2B (Materials Causing Other Toxic Effects, Toxic Material)
Class F (Dangerously Reactive Material)

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200). Hazardous classification:
Unstable (reactive)
Acute Health Hazard
Chronic Health Hazard

Part B: WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS Classification:
Class C (Oxidizing Material)
Class D2B (Materials Causing Other Toxic Effects, Toxic Material)

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200). Hazardous classification:
Oxidizer
Acute Health Hazard

Emergency Overview : Part A: Clear transparent liquid that may be tinted. Typical resin odour.
DANGER! Reactive hazard! Vapour or uninhibited liquid may polymerize explosively, if heated or exposed to sunlight (ultraviolet light), ionizing radiation, or incompatible materials. Moderate to severe eye irritant. May cause mild to moderate skin irritation. Inhalation may cause respiratory irritation and central nervous system depression. Liver and kidney injuries may occur.

Part B: Paste with a faint odour.
DANGER! Contains a strong oxidizer. May cause mild eye irritation. May cause mild skin irritation. May cause respiratory irritation. May cause skin sensitization.

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POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : Part A: Inhalation may cause respiratory irritation and central nervous system depression.

Part B: May cause irritation to the nose, throat and upper respiratory tract.

Skin : Part A: May cause mild to moderate skin irritation.

Part B: May cause mild transient irritation.

Eyes : Part A: May cause moderate to severe irritation.

Part B: May cause mild transient irritation.

Ingestion : Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea.

Effects of long-term (chronic) exposure

: None known or reported by the manufacturer.

Carcinogenic status

: See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards

: Skin sensitizer. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Part A		
Methyl methacrylate	80-62-6	35.00 - 50.00
Part B		
Benzoyl peroxide	94-36-0	2.00 - 5.00
Tricresyl phosphate	1330-78-5	2.00 - 5.00
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	70.00 - 80.00

SECTION 4 - FIRST AID MEASURES

- Inhalation** : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If symptoms develop, seek medical attention.
- Skin contact** : Remove/Take off immediately all contaminated clothing. Wash thoroughly with soap and water for at least 20 minutes. Obtain medical attention immediately.
- Eye contact** : Immediately flush eyes with running water for at least 20 minutes. If irritation persists, seek prompt medical attention.
- Ingestion** : Seek immediate medical attention/advice. Do not induce vomiting. If conscious, give the victim plenty of water to drink. Never give anything by mouth to an unconscious person.
- Notes For Physician** : Treat symptomatically. Part A: This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

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: Part A: Flammable liquid and vapour. Vapours are heavier than air and collect in confined and low-lying areas. Explosive decomposition may occur under fire conditions. Closed containers may explode and/or auto ignite when exposed to extreme heat.

Part B: Contains an organic peroxide. Will support or initiate combustion or explosion of organic matter and other oxidizable material. Dust can form an explosive mixture in air. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.1200)

: Part A: Flammable Liquid Class 1B.
Part B: None assigned.

Oxidizing properties

: Part A: None.
Part B: Contains an organic peroxide.

Explosion data: Sensitivity to mechanical impact / static discharge

: Sensitive to mechanical impact / static discharge.

Suitable extinguishing media

: Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides.

NFPA Rating

0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
: Health: *2 Flammability: 3 Instability: 2 Special Hazards: None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions

: All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up.

Environmental precautions

: Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Spill response/cleanup

: Ventilate area of release. Remove all sources of ignition. Use only non-sparking tools and equipment in the clean-up process. Sweep up and shovel into suitable containers for disposal. Use methods that do not generate dusts. Notify the appropriate authorities as required.

Prohibited materials

: Do not use combustible absorbents, such as sawdust.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): Methyl Methacrylate (100 lbs / 45.4 kg)

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures

: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapors, fumes or dust. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. No sparking tools should be used. Avoid contact with incompatible materials. Wash thoroughly after handling.

Storage requirements

: Store in a cool, dry, well-ventilated area. Keep away from direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

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Incompatible materials : Part A: Strong oxidizing agents; Strong alkalis; Strong acids; Reducing agents; Amines; Halogens; Catalytic metals.
 Part B: Strong acids; Strong bases; Strong oxidizing agents; Amines; Reducing agents.

Part B is an organic peroxide listed as an incompatible substance to Part A. Mixing Part A and B must be done under controlled conditions as prescribed in the product directions. Use of the resin dispensers provided with the resin kits are adequate for measuring correct amounts of each.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

<u>Exposure Limits</u>				
<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Part A				
Methyl methacrylate	50 ppm	100 ppm	100 ppm ; 410 mg/m ³	N/Av
Part B				
Benzoyl peroxide	5 mg/m ³	N/Av	5 mg/m ³	N/Av
Tricresyl phosphate	N/Av	N/Av	N/Av	N/Av
Reaction product of Epichlorohydrin and Bisphenol A	N/Av	N/Av	N/Av	N/Av

Ventilation and engineering measures

: Use in a well-ventilated area. General mechanical ventilation should be sufficient.

Respiratory protection

: Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Advice should be sought from respiratory protection specialists.

Skin protection

: Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.

Eye / face protection

: Chemical goggles must be worn to prevent dusts from entering the eyes.

Other protective equipment

: Wear protective clothing to cover as much of the exposed skin area as possible. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

: Avoid breathing vapors, fumes or dust. Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Part A: liquid Part B: paste	Appearance	: Part A: Clear transparent liquid that may be tinted. Part B: N/Av
Odour	: Part A: Typical resin odour. Part B: Faint odour.	Odour threshold	: N/Av
pH	: N/Av		

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Boiling point	: Part A: 101°C (213.8°F) Part B: N/Av	Specific gravity	: Part A: 1.06 Part B: 1.11
Melting/Freezing point	: Part A: N/Av Part B: 0°C (32°F)	Coefficient of water/oil distribution	: N/Av
Vapour pressure (mmHg @ 20° C / 68° F)	: Part A: 29 mm Hg Part B: N/Av	Solubility in water	: Part A: slightly soluble Part B: Slightly soluble in cold water.
Vapour density (Air = 1)	: N/Av	Evaporation rate (n-Butyl acetate = 1)	: N/Av
Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: N/Av
Flash point	: Part A: 9°C (48.2°F) Part B: N/Av	Auto-ignition temperature	: Not available.
Flash point Method	: Part A: Tag closed cup Part B: N/Av	Upper flammable limit (% by vol.)	: Part A: 12.5% Part B: N/Av
Lower flammable limit (% by vol.)	: Part A: 2.1% Part B: N/Av	Flashback observed	: N/Av
Flame Projection Length	: N/Av		
Viscosity	: N/Av		
Absolute pressure of container	: N/Av		

Section 10: Stability And Reactivity

Stability and reactivity	: SADT (Self Accelerating Decomposition Temperature) is the lowest temperature at which self accelerating decomposition may occur with substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be cause decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT. SADT of dibenzoyl peroxide: 60 °C (140 °F)
Hazardous polymerization	: Hazardous polymerisation may occur. Uninhibited methyl methacrylate with low inhibitor concentration, polymerizes slowly at room temperature and on exposure to light and air, and readily at elevated temperatures, greater than 65°C (149°F). Polymerization becomes self-sustaining above 95 deg C. Metal salts (e.g. ferric or aluminum chloride), peroxides, oxidizers and strong acids may also cause polymerization.
Conditions to avoid	: Avoid heat and open flame. Keep away from direct sunlight.
Materials To Avoid And Incompatibility	: See Section 7 (Handling and Storage) for further details.
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs	: Eyes, skin, respiratory system and digestive system.
Routes of exposure	: <i>Inhalation:</i> YES <i>Skin Absorption:</i> NO <i>Skin & Eyes:</i> YES <i>Ingestion:</i> YES
Toxicological data	: See below for individual ingredient acute toxicity data.

<u>Ingredients</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Part A Methyl methacrylate	4632 ppm 4 h	7872 mg/kg	N/Av
Part B			

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Benzoyl peroxide	N/Av	6400 mg/kg	N/Av
Tricresyl phosphate	N/Av	3000 mg/kg	N/Av
Reaction product of Epichlorohydrin and Bisphenol A	N/Av	N/Av	N/Av

- Carcinogenic status** : Does not contain any disclosable ingredients considered to be carcinogens by IARC or ACGIH.
- Reproductive effects** : Not expected to have other reproductive effects.
- Teratogenicity** : Not expected to be a teratogen.
- Mutagenicity** : Not expected to be mutagenic in humans.
- Epidemiology** : Not available.
- Sensitization to material** : Part A: Not expected to be a skin or respiratory sensitizer.
 Part B: Contains a chemical, or chemicals, which may cause skin sensitization. This product contains: Dibenzoyl peroxide; Reaction product of Epichlorohydrin and Bisphenol A.
- Synergistic materials** : None known or reported by the manufacturer.
- Irritancy** :
- other important hazards** : None known or reported by the manufacturer.
- Conditions aggravated by overexposure** : Pre-existing skin, eye and respiratory disorders.

SECTION 12 - ECOLOGICAL INFORMATION

- Ecotoxicity** : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. This product contains the following substance which may also be hazardous for the environment: Methyl methacrylate; Benzoyl peroxide; Tricresyl phosphate.
- Part A:
 The acute toxicity of methyl methacrylate is:
 Toxicity to fish - LC50/96h/Oncorhynchus mykiss (rainbow trout) = > 79mg/L; NOEC = 40 mg/L
 Toxicity to daphnia - LC50/48h/Daphnia magna (Water flea) = 69 mg/L; NOEC = 37 mg/L
- Part B:
 The acute toxicity of Benzoyl peroxide is:
 Toxicity to fish - LC50/96h/Oryzias latipes = 0.24 mg/L
 Toxicity to daphnia - EC50/48h/Daphnia magna (Water flea) = 0.07 mg/L
 Toxicity to algae - EC50/72h/algae = 1.3 mg/L
- The acute toxicity of Tricresyl phosphate is:
 Toxicity to fish - LC50/96h/Lepomis macrochirus = 0.082 mg/L
 Toxicity to daphnia - EC50/48h/Daphnia magna (Water flea) = 3.2 mg/L
 Toxicity to algae - LC50/96h/algae = 1.3 mg/L
- Mobility** : No data is available on the product itself.
- Persistence** : Methyl methacrylate is considered to be readily biodegradable. Benzoyl peroxide and tricresyl are considered to be rapidly biodegradable.
- Bioaccumulation potential** : Methyl methacrylate has a Log Pow value of 1.83. Benzoyl peroxide has a bioconcentration factor (BCF) of 92 and a Log Pow value of 3.43. Tricresyl has a BCF of 165.
- Other Adverse Environmental effects** : No additional information.

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SECTION 13 - DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle waste according to recommendations in Section 7. Empty containers may contain hazardous residues.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
49CFR/DOT	UN1133	ADHESIVES (Methyl Methacrylate)	3	III	
49CFR/DOT Additional information	For shipments by ground within the United States, the Limited Quantity exception may apply. Refer to 49 CFR Section 173.150.				
TDG	UN1133	ADHESIVES (methyl methacrylate)	3	III	
TDG Additional information	Within Canada, the Limited Quantity Exemption may apply for containers which hold specific quantities of the product. Under the TDGR, refer to section 1.17 for Limited Quantity Exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

US CERCLA Reportable quantity (RQ): Methyl methacrylate (100 lbs / 45.4 kg).

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard; Chronic Health Hazard; Fire Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: Methyl methacrylate; Dibenzoyl peroxide.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Methyl methacrylate (MA, MN, NJ, PA, CA, RI); Benzoyl peroxide (MA, MN, NJ, PA, CA, RI); Tricresyl phosphate (NJ).

International Information:

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Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this Material Safety Data Sheet contains all the information required by the CPR.

SECTION 16 - OTHER INFORMATION

HMIS Rating : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
Health: *2 *Flammability:* 2 *Reactivity:* 2

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
EPA: Environmental Protection Agency
EST: Eastern Standard Time
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values
TWA: Time Weighted Average
TSCA: Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2012.
2. International Agency for Research on Cancer Monographs, searched 2012.
3. Canadian Centre for Occupational Health and Safety, CCHInfoWeb databases, 2012 (Chempendium, HSDB and RTECS).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - July 2011 version.
6. California Proposition 65 List - July 20, 2012 version.

Prepared for:

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Prepared by:

ICC The Compliance Center Inc.

<http://www.thecompliancecenter.com>



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