

MATERIAL SAFETY DATA SHEET



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ResoBond 805 Tie-Coat Part A Hardener

CAS Number: Mixture

Product Description: Resodyn ResoBond 805 Tie-Coat provides excellent high-strength interlayer cohesive bonding of Resodyn ResoSeal 800 Concrete Sealer to ResoCoat 301 Polymer Thermal Spray coatings.

Manufacturers Name:

Resodyn Engineered Polymeric Systems

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Butte, Montana 59701

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2. COMPOSITION / INFORMATION ON INGREDIENTS

CONTAINING: HAZARDOUS AND/OR REGULATED COMPONENTS

<u>Chemical Name</u>	<u>Amount</u>	<u>CAS Number</u>	<u>OSHA PEL (TWA)</u>	<u>ACGIH TWA</u>
Formaldehyde, Polymer with Benzeneamine	PROPRIETARY	135108-88-2	Not Listed	Not Listed
Benzyl Alcohol	PROPRIETARY	100-51-6	10 ppm	Not Listed
4,4'-Methylenebis(cyclohexaneamine)	PROPRIETARY	1761-71-3	Not Listed	Not Listed
2,4,6-Tris[(Dimethylamino) Methyl] Phenol	PROPRIETARY	90-72-2	Not Listed	Not Listed
1-(2-Aminoethyl) Piperazine	PROPRIETARY	140-31-8	Not Listed	Not Listed

Balance of ingredients are non-hazardous as defined by OSHA 29 CFR 1910.1200 or hazardous in less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).

CALIFORNIA PROP 65: This product does not contain an ingredient(s), above the safe harbor limits, which are known to the state of California to cause cancer, birth defects, or other reproductive harm.

HAZARDS DISCLOSURE: This product does contain known hazardous materials in reportable levels as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. As defined under Sara 311 and 312, this product contains known hazardous materials.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! CAN CAUSE SEVERE EYE, SKIN AND RESPIRATORY TRACT BURNS. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS.

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POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Eyes, Skin, Inhalation, Ingestion.

TARGET ORGANS: None Known

INHALATION: Can cause severe eye, skin and respiratory tract burns. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

INGESTION: Harmful if swallowed. If ingested, severe burns of the mouth and throat, as well as a danger or perforation of the oesophagus and the stomach. May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

SKIN CONTACT: Causes skin burns. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Harmful in contact with skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

EYE CONTACT: Causes eye burns. May cause blindness. Severe eye irritation.

CHRONIC EXPOSURE: Severe cases of overexposure can result in respiratory failure.

AGGRAVATION OF PRE-EXISTING CONDITIONS: Individuals with pre existing skin, eye or respiratory conditions may be more susceptible to over-exposure to this material.

4. FIRST AID MEASURES

INHALATION FIRST AID If difficulty breathing, move to fresh air at once. Apply artificial respiration if breathing has stopped. Seek medical attention.

SKIN CONTACT FIRST AID: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately.

EYE CONTACT FIRST AID: Remove contact lens if present. Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Rinse immediately with plenty of water also under the eyelids for at least 20 minutes.

INGESTION FIRST AID: Induce vomiting ONLY as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice immediately.

NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

AUTO IGNITION TEMPERATURE: Not Established

FLASH POINT: 212°F (100°C) pmcc

FLAMMABLE LIMITS IN AIR, % by Volume: lel: NE.; uel: NE

EXTINGUISHING MEDIA: Use fire extinguishing materials appropriate for surrounding fire including water spray, dry extinguishing media, foam.

FIRE & EXPLOSION HAZARDS: May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces obnoxious and toxic fumes.

SPECIAL INFORMATION:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES: Small spill: absorb with non-combustible, granular material (e.g., sand). Remove by mechanical means and place material in covered container temporarily for later disposal. Large spill: evacuate area. Turn off ignition sources. Stop leak, if possible, without risk. Wear self-contained breathing apparatus and full protective clothing during clean up. Dike spill and pump into salvage tank. Absorb remaining liquid with sand or other non-combustible, granular material. Remove by mechanical means. Always dispose of wastes in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE CONDITIONS: Protect against physical damage. Store containers in a cool, dry, well ventilated location. Keep container closed when not in use. Keep away from direct heat and flame. Do not store near acids or in direct sunlight. Observe all warnings and precautions listed for the product.

HANDLING (PERSONNEL): Handle in accordance with good industrial hygiene and safety practices. Avoid contact with eyes, skin, and clothing.

DO NOT USE sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitroamines could be formed. Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using this product, do not eat, drink or smoke.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS: See Section 2 above.

VENTILATION SYSTEM: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

PERSONAL RESPIRATORS (NIOSH APPROVED): If the exposure limit is exceeded a respirator may be required. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

SKIN PROTECTION: Impervious gloves, neoprene, or other suitable long-sleeved and legged clothing. Launder clothing before reuse.

EYE PROTECTION: Use safety glasses and/or goggles, as appropriate where splashing or contact is possible.

GOOD HYGIENE CONDITIONS: Wash thoroughly after handling. Safety shower and eyewash station should be within direct access. Keep containers closed.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Liquid

ODOR: Ammoniacal odor

SOLUBILITY IN WATER: <0.1 g/L

MELTING POINT: Not Applicable

AUTO IGNITION TEMPERATURE: Not Established

pH: Alkaline

COLOR: Amber colored

BOILING POINT: 392°F (>200°C)

SPECIFIC GRAVITY: 1.03 @ 25°C

EVAPORATION RATE (BuAc=1): Not Established

FLASH POINT: 212°F (100°C) pmcc

VAPOR PRESSURE: <1.0 mm Hg @ 70°F (21°C)

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10. STABILITY AND REACTIVITY

STABILITY: Stable under ordinary conditions of use and storage.

CONDITIONS TO AVOID Sodium hypochlorite, organic acids, minerals acids, product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Nitrous acid and other nitrosating agents. Reactive metals (i.e sodium, calcium, zinc, etc.). Materials reactive with hydroxyl compounds. Oxidizing agents

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBILITY WITH OTHER MATERIALS: Strong oxidizing agents, Strong acids, Strong bases.

HAZARDOUS DECOMPOSITION: Nitric acid. Ammonia. Nitrogen oxides (NOx). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO₂). Aldehydes. Flammable hydrocarbons fragments (i.e. acetylene). Nitrosamine.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:

ACUTE ORAL TOXICITY (ingestion): LD50, rat: >500 mg/kg

ACUTE ORAL TOXICITY (inhalation): No data is available on the product itself. Components:

Benzyl alcohol: LC50, rat (4 h): > 4.178 mg/L

ACUTE DERMAL TOXICITY: No data is available on the product itself. Components:

Formaldehyde, polymer with benzeneamine, hydrogenated: LD50, rabbit: >1000 mg/kg

Benzyl alcohol: LD50, rabbit: 2000 mg/kg

1-(2-Aminoethyl)piperazine (AEP), rabbit: 880 mg/kg

4,4'-Methylenebiscyclohexanamine: LD50, rabbit: 2110 mg/kg

EYE IRRITANT: Yes

INGESTION IRRITANT: Yes

INHALATION IRRITANT: Yes

SKIN IRRITANT: Yes

SKIN SENSITIZER: Yes

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY:

No data is available on the product itself. Components:

Benzyl alcohol, bluegill sunfish (96 h): LC50: 10 mg/L

Benzyl alcohol, fathead minnow (96 h): LC50: 460 mg/L

4,4'-Methylenebiscyclohexanamine, golden orfe (96 h): LC50: 46-100 mg/L

4,4'-Methylenebiscyclohexanamine, daphnia magna (48 h): EC50: 6.84 mg/L

Benzyl alcohol, algae (72 h): IC50: 700 mg/L

4,4'-Methylenebiscyclohexanamine, algae (72 h): EC50: 140-200 mg/L

MOBILITY: No data available

BIOACCUMULATION: No data available on the product itself. Components: Some components are classified as persistent, bioaccumulative or toxic. Consult www.pbtprofiler.net.

HAZARDOUS AIR POLLUTANT: No data available on the product itself, but none of the components are HAPs.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Recover, reclaim or recycle when practical.

Dispose of material in accordance with federal, state and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

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14. TRANSPORTATION INFORMATION

Domestic (Land, D.O.T.), International (Water, I.M.O.), International (Air, I.C.A.O.)

This product is classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

DOT I.D. NO.: UN2735

DOT SHIPPING NAME: AMINES, LIQUID, CORROSIVE, N.O.S.,(Formaldehyde, polymer with benzeneamine, hydrogenated, Aminoethyl) (piperazine, 1-(2-, (AEP)))

DOT HAZARD CLASS: 8

PACKING GROUP: III

LABEL: CORROSIVE

SECTION 15. REGULATORY

15. REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

Chemical Inventory Status - Part 1

Ingredient	<u>TSCA</u>	<u>EC</u>	<u>Japan</u>	<u>Australia</u>
All Ingredients	YES	YES	YES	YES

Chemical Inventory Status - Part 2

Ingredient	<u>Korea</u>	<u>DSL</u>	<u>CANADA</u>	<u>Phil.</u>
All Ingredients	YES	YES	<u>NDSL</u>	YES
			NO	

Federal, State & International Regulations - Part 1

Ingredient	<u>-SARA 302-</u>	<u>TPQ</u>	<u>List</u>	<u>-SARA 313-</u>
All Ingredients	<u>RQ</u>	NO	NO	<u>Chemical Catalog</u>
	NO			NO
Ingredient	<u>CERCLA</u>		<u>-RCRA-</u>	<u>-TSCA-</u>
All Ingredients		NO	<u>261.33</u>	<u>8(d)</u>
			NO	NO

SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No
Reactivity: No (Pure / Liquid)

SARA 313: This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372. None

STATE REGULATIONS:

PROP 65 - WARNING:

THIS PRODUCT DOES NOT CONTAIN A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

RCRA 40 CFR: None.

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA). This material or all of its components are listed on the Canadian Domestic Substances List (DSL). This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS). Other inventory lists:, Korea (TCCL), Australia (AICS), China (Draft), PICCS (Philippines-RA6969), Japan (ENCS METI/MOL).

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16. OTHER INFORMATION

Hazardous Material Information System (HMIS):	Health	3
	Flammability	1
	Reactivity	0
	Personal Protection	D

National Fire Protection Association (NFPA) 3-Health, 1-Flammability, 0-Reactivity

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

Protective Equipment: GOGGLES & SHIELD; PROPER GLOVES; RESPIRATOR

Prepared By: Paul Eigbrett (MSDS Authoring PLUS)

Part Number: --

Date: May 3, 2011

Supersedes Date: New

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-2004)

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END OF MSDS