MATERIAL SAFETY DATA SHEET

SECTION I

DATE OF PREPARATION
June 2011

PRODUCT NAME: **ICO Super Guard Coating**
PRODUCT CLASS: Epoxy Resin, Part A
PRODUCT TYPE: Polymers of Epichlorohydrin Phenol-formaldehyde Novolac
D.O.T. CATEGORY: UN 3082 Environmentally Hazardous Substances, Liquid NOS (Epoxy phenol novolac resin) 9 PG III

ADDRESS: **International Coatings**
Div. of Milamar Coatings, L.L.C.
311 N.W. 122nd St. Suite 100
Oklahoma City, OK 73114
TELEPHONE: 405-755-8448
EMERGENCY: CHEM TEL 800-255-3924

SECTION II - HAZARDOUS INGREDIENTS

NFPA Hazard Rating- Health 3, Flammability 1, Reactivity 0
Listed below are the hazardous component(s) as defined in 49 CFR 172 and 29 CFR 1910 which are present in this product and all components which appear on the hazardous substance list of any state.

Resorcinol diglycidyl ether CAS# 0000101-90-6

SECTION III - PHYSICAL DATA

PHYSICAL STATE: Moderate viscosity, amber liquid
SPECIFIC GRAVITY: 1.3 at 77°F
DENSITY: 11 lbs/gallon
PERCENT VOLATILES: 0 at 70° F

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: >200°F (Pensky Martens Closed Cup)
EXTINGUISHING DATA: Foam, Dry chemical, Carbon Dioxide (CO_2)
FLAMMABLE LIMITS LFL: Not Applicable
UFL: Not Applicable
FIRE and EXPLOSION HAZARDS: High Temperature will cause combustion.
FIRE FIGHTING EQUIPMENT: Wear positive pressure, self-contained breathing apparatus.

SECTION V - HEALTH HAZARD DATA

PERMISSABLE EXPOSURE: None established
PRODUCT HAZARDS: Eye irritant, skin sensitizer, possible allergic reaction; suspect human carcinogen
EYE: This material will cause eye irritation.
SKIN CONTACT: This material is a skin irritant and can be an allergic sensitizer.
CAUTION: DO NOT ALLOW SKIN CONTACT This material can cause severe skin irritation.
SKIN ABSORPTION: Can be absorbed through skin. The LD50 for rats is between 300-400 mg/kg.
INGESTION: Swallowing will be a health hazard.
INHALATION: Inhalation may cause a severe allergic reaction. Mice and rats in a 2 year study when administered by gavage resulted in an increase in forestomach carcinoma.

EMERGENCY AND FIRST AID PROCEDURES:
EYES: Flush with water immediately. Continue to flush for 30 minutes and obtain emergency medical attention.
SKIN: Remove and do not reuse contaminated clothing. Immediately wash exposed areas very thoroughly with soap and water and flush for 15 minutes. It is not recommended to remove resin from skin with solvents.
INGESTION: **Do not** induce vomiting. Get medical attention immediately.
INHALATION: Remove to fresh air. If breathing is labored administer oxygen. Call a physician.

SECTION VI - REACTIVITY DATA

STABILITY: Conditions to avoid; Excessive heating over long periods of time degrades the resin, increases viscosity, and epoxide equivalent weight.
INCOMPATIBILITY: Specific materials to avoid; Acids, bases, and amines.
HAZARDOUS DECOMPOSITION PRODUCTS: The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, carbon monoxide and water. The thermal decomposition products of epoxy resins, therefore, should be treated as potentially hazardous substances, and appropriate precautions should be taken.
HAZARDOUS POLYMERIZATION: Will not occur by itself, but masses of more than one pound of product plus an aliphatic amine may cause irreversible polymerization with considerable heat build-up.

SECTION VII - SPILL OR LEAK PROCEDURE

ACTION TO TAKE FOR SPILLS/LEAKS: Soak up with absorbent material such as sand and collect in suitable containers. Residual resin can be removed with hot, soapy water. Solvents are not recommended for cleanup unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDS for handling information and exposure guidelines.
DISPOSAL METHOD: Burn in adequate incinerator or bury in an approved landfill in accordance with applicable federal, state and local regulations.

SECTION VIII - SPECIAL PROTECTION REQUIREMENT

EXPOSURE GUIDELINES:	None established.
VENTILATION:	Good general ventilation should be sufficient for most operations.
RESPIRATORY PROTECTION:	For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved dust respirator.
SKIN PROTECTION:	Impervious protection clothing should be worn. Neoprene coated fabric is recommended.
EYE PROTECTION:	Splash goggles or full face shield should be worn.

SECTION IX - SPECIAL PRECAUTIONS

Do not allow any skin contact, as this material can cause severe skin irritation.

SECTION X – SPECIAL REGULATORY INFORMATION

WHMSIS CLASSIFICATION - Class D2A

SECTION X - TRANSPORTATION

DOT PROPER SHIPPING NAME:	Environmentally Hazardous Substances, Liquid NOS (Epoxy phenol novolac resin)
DOT HAZARD CLASSIFICATION OR DIVISION	9
IDENTIFICATION NUMBER:	UN 3082
PACKAGING GROUP:	III
LABELS REQUIRED:	None

THE INFORMATION HEREIN RELATES TO THE PRODUCT NAMED AND IS BASED UPON INFORMATION INTERNATIONAL COATINGS CONSIDERS TO BE ACCURATE. NO WARRANTY EXPRESSED OR IMPLIED IS INTENDED

MATERIAL SAFETY DATA SHEET

SECTION I

DATE OF PREPARATION
June 2011

PRODUCT NAME: **ICO Super Guard Coating**
PRODUCT CLASS: Epoxy Resin Hardener, Part B
PRODUCT TYPE: Amine Curing Agent
D.O.T. CATEGORY: UN 2922 Corrosive Liquids, Toxic NOS (Cycloaliphaticamine, Furfuryl Alcohol) 8(6) PG III

ADDRESS: **International Coatings**
Div. of Milamar Coatings, L.L.C.
311 N.W. 122nd St. Suite 100
Oklahoma City, OK 73114
TELEPHONE: 405-755-8448
EMERGENCY: CHEM TEL 800-255-3924

SECTION II - HAZARDOUS INGREDIENTS

NFPA Hazard Ratings- Health 3, Flammability 1, Reactivity 0
Listed below are the hazardous component(s) as defined in 49 CFR 172 and 29 CFR 1910 which are present in this product and all components which appear on the hazardous substance list of any state:

			Exposure Limits		
Ingredient	WT%	CAS #	TWA	STEL	ceiling
Furfuryal Alcohol	30-40	98-00-0	N.E.	N.E.	N.E.

SECTION III - PHYSICAL DATA

PHYSICAL STATE: Low Viscosity, light straw color
SPECIFIC GRAVITY: 1.09 at 77°F
DENSITY: 9.1 lbs./gal at 77° F
ODOR: Fishy
VAPOR PRESSURE: Less than 1 mm Hg @ 68°F

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: >200°F (Pensky Martens Closed Cup)
LFL: No data
UFL: No data
Extinguishing Media: Water fog, Alcohol Foam, CO_2, Dry Chemical
SPECIAL FIRE FIGHTING PROCEDURES: Use a positive pressure, self-contained breathing apparatus. Wear full protection coating.
Note: Will burn under right conditions of heat and oxygen supply.

SECTION V - HEALTH HAZARD DATA

EYES: Severe eye irritant. Undiluted product can cause burns to eye. Burns may cause blindness.
SKIN CONTACT: Severe skin irritant. May cause skin sensitization.
SKIN ABSORPTION: A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD50 for skin absorption in rabbits is 2000 mg/kg.
INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is between 300-400 mg/kg. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat.
INHALATION: May cause respiratory sensitization in susceptible individuals. Excessive exposure may cause irritation to upper respiratory tract.
SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Did not cause cancer in long-term animal studies. Results of in vitro (test tube) mutagenicity tests have been negative.
FIRST AID:
EYES: Immediate and continuous irrigation with flowing water for at least 15 minutes is imperative. Prompt medical consultation is essential
SKIN: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash clothing before reuse. Destroy contaminated shoes and other leather items or articles which cannot be decontaminated.

INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or Induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagoscopic control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportivecare. Treatment based on judgment of the physician in response to reactions of the patient. Excessive exposure may aggravate pre-existing asthma.

SECTION VI - REACTIVITY DATA

STABILITY: Can auto-ignite at elevated temperatures. No data available.

CONDITIONS TO AVOID (if unstable): Not applicable.

INCOMPATIBILITY (Materials to Avoid): Oxidizing agents (i.e. perchlorates, nitrates etc.).
Cleaning solutions, such as chromerage (sulfuric acid/dichromate) and aqua regia.
A reaction accompanied by large heat release occurs when the product is mixed with acids.
Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material.

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials)
Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm).
Combustion of product under oxygen-starved conditions can be expected to product numerous toxic products including: nitriles, cyanic acid, isocyanides, cyanogens, nitrosamines, amides and carbamates.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURE

ACTION TO TAKE FOR SPILLS/LEAKS: Large spill-dike up and pump into appropriate containers. Small spill - dilute with water and recover or use noncombustible absorbent material/sand and shovel into suitable containers.

WASTE DISPOSAL: Product is classified as “corrosive” and as such must be disposed of as hazardous waste according to Federal, State and local regulations.

SECTION VIII - SPECIAL PRECAUTION INFORMATION

HAND PROTECTION: Wear suitable gloves: nitrile rubber gloves.

RESPIRATORY PROTECTION: In poorly ventilated areas, a cartridge mask National Institute for Occupational Safety and Health (NIOSH) approved for organic vapors is recommended under the following conditions: emergency situations; when product vapor concentration is greater than 20 ppm for a period longer than 15 minutes; during repair and cleaning of equipment; during transfer or discharge of the product.

PROTECTIVE CLOTHING: Rubber apron. Rubber boots.

EYE PROTECTION: Full face shield with goggles underneath.

SECTION IX - SPECIAL PRECAUTIONS

STORAGE: Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feed.

HANDLING: Avoid contact with skin, eyes and clothing.
Do not breathe fumes/spray. Handle in well ventilated work space.

OTHER PRECAUTIONS: Emergency showers and eye wash stations should be readily accessible.

SECTION X - TRANSPORTATION

DOT PROPER SHIPPING NAME:	Corrosive Liquids, Toxic NOS (Cycloaliphaticamine, Furfuryl Alcohol)
DOT HAZARD CLASSIFICATION OR DIVISION	8(6)
IDENTIFICATION NUMBER:	UN 2922
PACKAGING GROUP:	III
LABELS REQUIRED:	Corrosive, Poison