MATERIAL SAFETY DATA SHEET

SECTION I

DATE OF PREPARATION
June 2011

PRODUCT NAME:	**ICO Liner**
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** 2925 Lucy Lane Franklin Park, IL 60131
TELEPHONE:	847-451-0279
EMERGENCY:	800-535-5053

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 30 to 45 %

SECTION III - PHYSICAL DATA

PHYSICAL STATE:	Moderate viscosity, amber liquid
SPECIFIC GRAVITY:	1.2 at 77°F
DENSITY:	9.7 lbs/gal
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

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 INFORMATION

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

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Practice caution and personal cleanliness to avoid skin and eye contact. Avoid breathing vapors of heated material.

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 Liner
PRODUCT CLASS: Epoxy Resin Hardener, Part B
PRODUCT TYPE: Amine Curing Agent
D.O.T. CATEGORY: UN2735 Amines, Liquids Corrosive, NOS (Aliphatic Amines) 8 PG III

ADDRESS: International Coatings
2925 Lucy Lane
Franklin Park, IL 60131
TELEPHONE: 847-451-0279
EMERGENCY: 800-535-5053

SECTION II - HAZARDOUS INGREDIENTS

NFPA HAZARD RATING: Health 3, Flammability 1, Reactivity 1
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:

Ingredient	CAS #	Exposure Limits		
		TWA	STEL	ceiling
Benzene-1,3Dimethaneamine (MXDA)	1477-550	NE	NE (skin)	.100mg/m³

SECTION III - PHYSICAL DATA

PHYSICAL STATE: Low Viscosity, light straw color
SPECIFIC GRAVITY: 1.12 at 77°F
DENSITY: 9.33 lbs/gal at 77° F
ODOR: Ammoniacal
VAPOR PRESSURE: 5.50 mm Hg e 70 ° F

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: >212°F (Pensky Martens Closed Cup)
LFL: ND
UFL: ND
EXTINGUISHING MEDIA: Water
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. TheLD50 for skin absorption in rabbits is 2000 mg/kg.
INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is greater than 2000 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 medicalconsultation 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. Supportive care. Treatment based on judgement 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): Mineral acids (i.e. sulfuric, phosphoric, etc.). Organic acids (i.e. acetic acid, citric acid etc.). Oxidizing Agents (i.e. perchlorates, nitrates etc.). Sodium or Calcium Hypochlorite. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion
HAZARDOUS DECOMPOSITION PRODUCTS: (from burning, heating, or reaction with other materials) Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.
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: Comply with all Federal, State and Local Regulations for hazardous materials. Incineration is acceptable and the preferred method of disposal. However, nitrogen oxide emission controls may be required to meet specifications. Chemical and/or biological degradation is feasible. A suitable industrial or municipal waste treatment system can be used depending on the quality and quantity of waste to be treated, the treatment plant capability, and discharge water quality standards. Dispose of in an approved landfill if allowed locally.

SECTION VIII - SPECIAL PRECAUTION INFORMATION

HAND PROTECTION: Wear suitable gloves: nitrile rubber gloves / PVC gloves.
RESPIRATORY PROTECTION: Not required under normal conditions in a well-ventilated workplace. Under the following conditions a respirator may be required: when product vapor concentration exceeds the limits listed in section 2, during repair and cleaning of equipment, during transfer or discharge of the product, sampling, spray applications. Types of respirators that may be used include the following: Chemical Cartridge Respirator with face piece to protect against the organic vapor, Supplied air respirator with full face piece, Self-contained breathing apparatus in pressure demand mode. In emergency conditions use a self-contained breathing apparatus in pressure demand mode.
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:	Amines, Liquids Corrosive N.O.S. (Aliphatic Amines)
DOT HAZARD OR CLASSIFICATION:	8
IDENTIFICATION NUMBER:	UN 2735
PACKAGING GROUP:	III
LABELS REQUIRED:	Corrosive

SECTION XI – REGULATORY INFORMATION

WHMSIS CLASSIFICATION: Class E, Corrosive

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