MATERIAL SAFETY DATA SHEET

SECTION 1 - MATERIAL IDENTIFICATION

PRODUCT NAME: ANC Catalyst 032803-Z

MANNUFACTURER: Advanced Nano Coatings, Inc.
900 NE Loop 410
Suite E111
San Antonio, Texas 78209

EMERGENCY OVERVIEW

HMIS/NFPA: HEALTH 2 FLAMMABILITY 1 REACTIVITY 0

PHYSICAL FORM: Mobile liquid **COLOR:** Amber **ODOR:** Ammoniacal

HAZARDS: Harmful if swallowed. Mild skin irritant. May cause skin sensitization.

EXTINGUISHING MEDIA: Ignition will give rise to a Class B fire. In case of large fire use: alcohol foam, water spray. In case of small fire use: carbon dioxide(CO2), dry chemical, dry sand or limestone.

C.A.S. CHEMICAL NAME: Mixture
SYNONYMS: None
CHEMICAL FAMILY: Cycloaliphatic Amine
EMPIRICAL FORMULA: Mixture
INTENDED USE: Flame retardant Catalyst for epoxy resins
REVISION NOTES: Updated health hazard information. CHRONIC/SUBCHRONIC DATA

SECTION 2 - INGREDIENTS

Num	%	CAS Number	Chemical Name
1.	>45.00	100-51-6	BENZYL ALCOHOL
2.	<5.00	1761-71-3	4,4'-METHYLENEBISCYCLOHEXANAMINE

The remaining components are trade secret.

OSHA (ACGIH) EXPOSURE LIMITS

		TWA		STEL		CEILING	
		ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
1.	OSHA	N/E	N/E	N/E	N/E	N/E	N/E
	ACGIH	N/E	N/E	N/E	N/E	N/E	N/E
2.	OSHA	N/E	N/E	N/E	N/E	N/E	N/E
	ACGIH	N/E	N/E	N/E	N/E	N/E	N/E

N/E = Not Established.

SECTION 3 - HEALTH HAZARDS

ROUTES OF EXPOSURE: Eye Contact, Skin Contact, Ingestion, and Skin Absorption.

EXPOSURE STANDARDS: No standards established for the product. Maintain air contaminant concentrations in the workplace at the lowest feasible levels.

HEALTH HAZARDS: Harmful if swallowed. Mild skin irritant. May cause skin sensitization.

TARGET ORGANS: Skin

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects): Contact with the skin may cause dryness (defatting), itching and/or rash. Contact with skin causes mild irritation and discomfort. Inhalation of mists may cause irritation in the respiratory tract. Product is absorbed through the skin and may cause nausea, headache and general discomfort.

SIGNS AND SYMPTOMS OF EXPOSURE:(Possible Longer Term Effects): Repeated and/or prolonged exposure may cause allergic reaction/sensitization. Repeated and/or prolonged exposures may result in: adverse skin effects (such as defatting, rash, or irritation), adverse skin effects (such as rash, irritation or corrosion). Dryness of nasal passages may be experienced when material is inhaled over a long period of time.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Skin disorders and Allergies

CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER: This product contains no carcinogens in concentrations of 0.1 percent or greater.

SECTION 4 - FIRST AID

EYE CONTACT: Rinse immediately with plenty of water.

SKIN CONTACT: Wash affected area with soap and water. Remove contaminated clothing and shoes. Destroy contaminated leather apparel. Launder contaminated clothing prior to reuse.

INHALATION: Move patient to fresh air. If breathing has stopped or is Labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Prevent aspiration of vomit. Turn victim's head to the side. Seek medical advice.

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.

SECTION 5 - FIRE AND EXPLOSION DATA

FLASH POINT (closed cup): 103.89 C (219.00 F)

UPPER EXPLOSION LIMIT (UEL): No Data

SECTION 5 - FIRE AND EXPLOSION DATA CONTINUED

LOWER EXPLOSION LIMIT (LEL): No Data

AUTOIGNITION TEMPERATURE: No Data

FIRE HAZARD CLASSIFICATION (OSHA/NFPA): Class IIIB

EXTINGUISHING MEDIA: Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO2), dry chemical, dry sand or limestone.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: May generate toxic or irritating combustion products. Sudden reaction and fire may result if product is mixed with an oxidizing agent. May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas. Personnel in vicinity and downwind should be evacuated.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc): Stop the leak, if possible. Reduce vapor spreading with a water spray. Shut off or remove all ignition sources. Construct a dike to prevent spreading (includes molten liquids until they freeze).

CLEAN-UP PROCEDURES: If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Flush area with water spray. Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

OTHER EMERGENCY ADVICE: Wear protective clothing, boots, gloves, and eye protection.

SECTION 7 - HANDLING AND STORAGE

STORAGE: Keep away from: acids, alkalis, oxidizers. Keep in cool, dry, ventilated storage and in closed containers. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store in reactive metal containers.

HANDLING: Avoid contact with skin or eyes. When handling, do not eat, drink, or smoke.

OTHER PRECAUTIONS: Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA). Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Cancer-causing nitrosamines could be formed.

SECTION 8 - PERSONAL PROTECTION / EXPOSURE CONTROLS

EYE PROTECTION: Chemical safety glasses.

HAND PROTECTION: Neoprene rubber gloves. Cuffed butyl rubber gloves. Nitrile Rubber gloves.

RESPIRATORY PROTECTION: Not required under normal conditions in a well-ventilated workplace.

PROTECTIVE CLOTHING: Long sleeved clothing.

ENGINEERING CONTROLS: No specific controls needed.

WORK AND HYGIENIC PRACTICES: Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet. Use appropriate hand and skin lotions to protect the skin. Discard contaminated leather articles.

SECTION 9 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Mobile liquid
COLOR	Amber
ODOR	Ammoniacal
pH	Alkaline
VAPOR PRESSURE (mm Hg at 21C (70F))	0.69925
VAPOR DENSITY (Air = 1)	No Data
BOILING POINT	222.00 C (431.60 F)
MELTING POINT	No Data
SOLUBILITY IN WATER	Slight (0.1 - 1%)
SPECIFIC GRAVITY (Water = 1)	1.06
MOLECULAR WEIGHT	Mixture

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID (if unstable): Not applicable

INCOMPATIBILITY (Materials to Avoid): Mineral acids (i.e. sulfuric, phosphoric, etc.). Alkalis (i.e.Sodium or Potassium Hydroxide etc.). Organic acids (i.e. acetic acid, citric acid etc.). Reducing agents (i.e. hydrides, sulfites etc.). Oxidizing Agents (i.e. perchlorates, nitrates etc.). Reactive metals (i.e. sodium, calcium, zinc etc.). Sodium or Calcium Hypochlorite. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Amines. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. Nitrites, nitrosating agents. 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.

SECTION 10 - STABILITY AND REACTIVITY CONTINUED

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. Nitric acid in a fire. nitrosamines. Aldehydes. Organic acid vapors. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID (if polymerization may occur): Not applicable

SECTION 11 - TOXICOLOGICAL PROPERTIES

ACUTE ORAL TOXICITY (LD50, RAT)
1200.00 mg/kg

ACUTE DERMAL TOXICITY (LD50, RABBIT)
No Data

ACUTE INHALATION TOXICITY (LC50, RAT)
No Data

OTHER ACUTE EFFECTS
No Data

IRRITATION EFFECTS DATA
Mild irritant to the skin of a rabbit.

CHRONIC/SUBCHRONIC DATA: Mixed polycycloaliphatic amines was tested in rats for systemic effects in a subchronic (28-day) oral study at doses ranging from 15 to 300 mg/kg/day. Effects seen at 300 mg/kg/day included decreased survival, decreased body weight gain, increased liver, kidney, and adrenal weights and histological changes in the liver, kidney, adrenals and spleen. The No-Observed-Adverse-Effect-Level (NOAEL) was 15 mg/kg/day. A component has been shown to cause reproductive/teratogenic effects in laboratory animals.

SECTION 12 - ECOLOGICAL INFORMATION

No Data

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Comply with all Federal, State and Local Regulations.

SECTION 14 - TRANSPORT INFORMATION

D.O.T. SHIPPING NAME:	NOT A REGULATED MATERIAL
TECHNICAL SHIPPING NAME:	NONE ESTABLISHED
D.O.T. HAZARD CLASS:	NONE ESTABLISHED
UN/NA NUMBER:	NONE ESTABLISHED

SECTION 15 - REGULATORY INFORMATION

US FEDERAL REGULATIONS

TOXIC SUBSTANCES CONTROL ACT (TSCA): All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es): Sensitizer.

EPA SARA Title III Section 312 (40CFR370) hazard class: Delayed Health Hazard.

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "deminimis" level are None.

STATE REGULATIONS

PROPOSITION 65 SUBSTANCES (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986"): None

TRADE SECRET REGISTRY NUMBER(S): 05995500-(C2280U)

SECTION 16 - INTERNATIONAL REGULATIONS

CANADA: DSL Included on Inventory.

WHMIS HAZARD CLASSIFICATION - Class D Division 2B, BENZYL ALCOHOL
WHMIS SYMBOLS - Stylized T,

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINECS/ELINCS MASTER INVENTORY: Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.

EEC SYMBOL: HARMFUL (Xn)

EEC RISK (R) PHRASES: May cause sensitization by skin contact (R43). Harmful by inhalation and if swallowed (R20/22).

EEC SAFETY PHRASES: Wear suitable protective clothing and gloves (S36/37).

AUSTRALIA AICS: Not on Inventory. Notifications have been sent to the National Occupational Health and Safety Commission of Australia

JAPAN MITI: Included on Inventory.

PHILIPPINES PICCS: Included on Inventory.

KOREA ECL: Included on Inventory.

CHINA SEPA: Included on Inventory.

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