AIR PRODUCTS

MATERIAL SAFETY DATA SHEET

100579

SECTION 1 - MATERIAL IDENTIFICATION

PRODUCT NAME	LONZACURE* MCDEA CURING AGENT *LONZA LTD. is the manufacturer of LONZACURE MCDEA and LONZACURE is a registered trademark of LONZA LTD.
MSDS REVISION NUMBER	11
MANUFACTURER	Air Products and Chemicals, Inc. 7201 Hamilton Blvd., Allentown, PA 18195-1501
TELEPHONE NUMBER	800-345-3148
EMERGENCY TELEPHONE NUMBER(S)	800-523-9374 (Continental U.S.) 610-481-7711 (Outside Continental U.S.)
REVISION DATE	NOVEMBER 1999

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EMERGENCY OVERVIEW
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HMIS/NFPA HEALTH 1 FLAMMABILITY 1 REACTIVITY 0

PHYSICAL FORM	Crystalline powder
COLOR	Off-White
ODOR	Odorless
HAZARDS	Mild eye irritant.
EXTINGUISHING MEDIA	Ignition will give rise to a Class A 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.

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C.A.S. CHEMICAL NAME	Benzamine, 4,4'-methylenebis[3-chloro-2, 6-diethyl-]
SYNONYMS	None
CHEMICAL FAMILY	Diamine
EMPIRICAL FORMULA	No Data
INTENDED USE	, Extender
REVISION NOTES	Updated regulatory information. DSL

AIR PRODUCTS

SECTION 2 - INGREDIENTS

#	%	CAS Number and Chemical Name
1.	100.00	106246-33-7 Benzamine, 4,4'-methylenebis[3-chloro-2, 6-diethyl-]

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

N/E = Not Established.

SECTION 3 - HEALTH HAZARDS

ROUTES OF EXPOSURE

Eye Contact
Skin Contact
Ingestion

EXPOSURE STANDARDS

No standards established for the product. When handling large quantities in an open system, dusting can occur. Such dust should be treated as a 'nuisance dust.' Levels should be maintained below 30 mppcf or 10 mg/m3 through appropriate ventilation of the workplace. Maintain air contaminant concentrations in the workplace at the lowest feasible levels.

HEALTH HAZARDS

Mild eye irritant.

TARGET ORGANS

None known

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Contact with eyes may cause mild irritation and discomfort.
Inhalation of dust may cause irritation in the respiratory tract.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)

No known effects

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

None known

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
Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes.

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)	No Data
UPPER EXPLOSION LIMIT (UEL)	No Data
LOWER EXPLOSION LIMIT (LEL)	No Data
AUTOIGNITION TEMPERATURE	>300.00 C (>572.00 F)

FIRE HAZARD CLASSIFICATION (OSHA/NFPA)
Combustible Solid

EXTINGUISHING MEDIA
Ignition will give rise to a Class A 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
WARNING -DUST EXPLOSION HAZARD! Dust from this product is capable of progagating a deflagration. As discussed in NFPA 68 and NFPA 69 standards, mixing any dust that can propagate a deflagration with flammable vapors will increase the hazard rating. Where explosive dusts are contained in equipment, that

equipment should contain adequate explosion relief vents, explosion suppression systems, or an oxygen deficient atmosphere. Process equipment should also be electrically bonded and grounded. Care should be taken to prevent the escape of dust from horizontal surfaces.

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.

CLEAN-UP PROCEDURES

Shovel spilled chemical product into empty, dry container for later disposal or recovery. Place in metal containers for recovery or disposal. Flush area with water spray. Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing. Avoid procedures which cause dusting during clean-up.

OTHER EMERGENCY ADVICE

Avoid dusting in closed spaces. Dust explosion hazard may exist. Wear protective clothing, boots, gloves, and eye protection.

SECTION 7 - HANDLING AND STORAGE

STORAGE

Keep away from: acids, oxidizers. Keep in cool, dry, ventilated storage and in closed containers. Do not store in reactive metal containers.

HANDLING

Avoid dusting conditions. When handling, do not eat, drink, or smoke. Avoid contact with eyes. Avoid contact with skin

OTHER PRECAUTIONS

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA).

SECTION 8 - PERSONAL PROTECTION / EXPOSURE CONTROLS

EYE PROTECTION
Chemical safety glasses. Dust resistant safety goggles.

HAND PROTECTION
Nitrile rubber gloves. Polyvinyl chloride gloves.

RESPIRATORY PROTECTION
In conditions where dust may be generated, wear a suitable dust mask.

PROTECTIVE CLOTHING
No specific recommendation.

ENGINEERING CONTROLS
No specific controls needed.

WORK AND HYGIENIC PRACTICES
Provide readily accessible eye wash stations and safety showers. Discard contaminated leather articles.

SECTION 9 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Crystalline powder
COLOR	Off-White
ODOR	Odorless
pH	No Data
VAPOR PRESSURE (mm Hg at 21C (70F))	<1.00000
VAPOR DENSITY (Air = 1)	No Data
BOILING POINT	No Data
MELTING POINT	88.00 C (190.40F)
SOLUBILITY IN WATER	Insoluble (<0.1%)
SPECIFIC GRAVITY (Water = 1)	0.95
VISCOSITY (CPS)	60 @ 100C (212.00 F)
MOLECULAR WEIGHT	No Data

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.). 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

CONDITIONS TO AVOID (if polymerization may occur)

Not applicable

SECTION 11 - TOXICOLOGICAL PROPERTIES

ACUTE ORAL TOXICITY (LD50, RAT)

>5000.00 mg/kg (No deaths)

ACUTE DERMAL TOXICITY (LD50, RABBIT)

>2000.00 mg/kg (No deaths)

ACUTE INHALATION TOXICITY (LC50, RAT)

No Data

OTHER DATA

AMES TEST: Negative (activated and nonactivated)

OTHER ACUTE EFFECTS

No Data

IRRITATION EFFECTS DATA

Mild irritant to the eyes of a rabbit. Non-irritant to the skin of a rabbit.

CHRONIC/SUBCHRONIC DATA

Subacute oral toxicity (28 day, rat): No effects were observed at 300 ppm (approximately 38 mg/kg/day). At a dose of 1000 ppm (138 mg/kg/day), observed effects include increased liver weight and hypertrophy of the centrilobular hepatocytes. The hypertrophy was not accompanied by any biochemical evidence of liver damage, and is considered to be adaptive. Subacute detary toxicity (90 days, rat): The NOEL was considered to be 300 ppm (ca. 23-26 mg/kg/day)/ At a dose of 1600 ppm (129-143 mg/kg/day), observed effects include increased liver, spleen and kidney weights, hypertrophy, and only in females, increased cholesterol and triglyceride levels were observed. There was no evidence of retinotoxicity. Mutagenicity: in vivo/in vitro unscheduled DNA synthesis (UDS) test in rat hepatrocytes (liver cells) showed no DNA damage over the tested range of 100 mg/kb to 1000 mg/kg. This product has been tested and shown not to cause

sensitization in guinea pigs.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY

Guppy 96 hour LC0 1 mg/kg Suspension (No deaths)
Daphnia magna 48 hour EC0 100 mg/l Suspension No immobilization was observed.
Algae 72 hour ErC/EbC50 > 7.4 mg/l

ENVIRONMENTAL FATE

(Modified Sturm Test): Not rapidly biodegradable (4.7%/28d)

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Comply with all Federal, State and Local Regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT NON-BULK SHIPPING NAME	Chemicals, N.O.I. - Not DOT Regulated
DOT BULK SHIPPING NAME	Refer to Bill of Lading.
IMO SHIPPING DATA	Refer to Bill of Lading.
ICAO/IATA SHIPPING DATA	Chemicals, N.O.I. - Not IATA Regulated

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)

None

EPA SARA Title III Section 312 (40CFR370) hazard class

None

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" 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

NEW JERSEY TRADE SECRET REGISTRY NUMBER(S)
None

SECTION 16 - INTERNATIONAL REGULATIONS

CANADA

DSL
Included on Inventory.

WHMIS HAZARD CLASSIFICATION
None

WHMIS TRADE SECRET REGISTRY NUMBER(S)
Not applicable

WHMIS SYMBOLS
None

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINECS/ELINCS MASTER INVENTORY
On ELINCS. Importation or manufacture requires notification.

EEC RISK (R) PHRASES
There are no known health hazards.

AUSTRALIA

AICS
Not on Inventory.

PRODUCT CODE LNZCUR