Anderson
Development Company

MSDS#:0005

MATERIAL SAFETY DATA SHEET

I) PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Curene 3005
PRODUCT CODE.....: 11102
CAS NUMBER.....: Mixture
TSCA STATUS.....: Yes, 1980
MOLECULAR FORMULA: Not Applicable
EQUIVALENT WEIGHT: 280
CHEMICAL FAMILY..: Aromatic Amine Polyol
CHEMICAL NAME....: Mixture
SYNONYMS.....: None

II) HAZARDOUS COMPONENTS:

MATERIAL	CAS NO.	WT%
4,4'-Methylene bis (2-chloroaniline)	101-14-4	41.2

OSHA TWA 0.02 ppm / Skin (Yes)
OSHA Suspected Carcinogen, NTP, ACGIH, IARC Suspect Carcinogen
SARA Section 313 Toxic Chemical

III) PHYSICAL DATA:

BOILING POINT.: Not Available
VAP. PRESSURE.: Negligible
VAPOR DENSITY.: Not Applicable
SOLUBILITY H_2O: Miscible
SP. GRAVITY...: 1.23 @ 70°F
PHYSICAL STATE: Liquid @ 25°c
MELTING RANGE.: Not Available
AUTO IGNITION.: Not Available

APPEARANCE..: Amber
ODOR.....: Slight
FLASH POINT.: >400°F TOC
FLAM UFL....: Not Available
FLAM LFL....: Not Available
PH VALUE....: Not Applicable
VOLATILES...: Negligible
DECOMP. TEMP: ~400°F

IV) EMERGENCY PHONE NUMBERS:

Anderson Development Company.....: (517) 263-2121
Anderson Development Company After 5:00 PM EST: (517) 263-5487
For Transportation Emergency Call CHEM-TREC...: (800) 424-9300

Anderson Development Company
1415 E. Michigan Street, Adrian, Michigan 49221-3499 U.S.A.
(517) 263-2121, TWX 510-450-2890, FAX (517) 263-1000

V) NFPA FIRE HAZARD WARNINGS:

HAZARD TYPE	DEFINITION
FIRE.....: 1	4 = EXTREME
REACTIVITY: 0	3 = HIGH
TOXICITY..: 2	2 = MODERATE
SPECIAL...:	1 = SLIGHT
	0 = INSIGNIFICANT
	W = WATER REACTIVE
	* = SEE SECTION XII

VI) FIRE AND EXPLOSION HAZARDS:

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, water or foam.

FIRE AND EXPLOSION HAZARDS: Downwind personnel should be evacuated. Do not reseal contaminated containers as pressure build-up may rupture them. Avoid skin contact. Product is combustible and under extreme heat may undergo decomposition releasing toxic vapors such as hydrochloric acid, carbon dioxide, carbon monoxide, nitrogen oxides, chlorine, ortho-chloroaniline and nitroso amines.

FIRE FIGHTING EQUIPMENT: People who are fighting fires must be protected against toxic and hazardous gases by wearing positive pressure self-contained breathing apparatus and full protective clothing. Do not breath vapors or fumes, avoid skin contact.

VII) REACTIVITY DATA:

STABILITY: Stable under normal storage conditions.

INCOMPATIBILITY: Strong acids and bases. Oxidizers and reducing agents. Reactive metals such as aluminum or magnesium and other reactive chemicals such as liquid ammonia.

DECOMPOSITION PRODUCTS: Chlorine, ortho-chloroaniline, hydrochloric acid, carbon dioxide, carbon monoxide, nitrogen oxides and nitroso amines.

HAZARDOUS POLYMERIZATION: Will not occur.

VIII HEALTH HAZARD DATA:

EYES: Vapors from heated product may cause eye irritation.

SKIN CONTACT: Hazardous components are absorbed through the skin. 4,4'-Methylenebis-2-chloroaniline may cause cancer base on tests in laboratory animals. May produce cyanosis. Ma cause allergic skin reaction in susceptible individuals Prolonged or repeated exposure may cause skin irritation.

INGESTION: Material may be ingested through poor hygiene practices. May cause gastrointestinal and kidney damage. Ma produce cyanosis. 4,4'-Methylenebis-2-chloroaniline singl oral dose toxicity: Oral LD_{50} for rats is 2,100 mg/kg.

INHALATION: May produce cyanosis. 4,4'-Methylenebis-2- chloroaniline may cause cancer based on tests in laborator animals. May cause respiratory sensitization in susceptibl individuals. At room temperature, vapors are minimal due t low vapor pressure. If heated, excessive concentrations ar attainable that could be hazardous on single exposure.

SYSTEMIC & OTHER EFFECTS: Based on available data for 4,4'-Methylene bis (2-chloroaniline) repeated exposures may produce cyanosis and cancer. May effect kidney function. The following have been observed in experimental animals only: Pulmonary carcinoma, malignant liver tumors, carcinoma of the breast and bladder and methemoglobinemia.

IX) FIRST AID:

EYES: Rinse with water immediately for 15 minutes. See physician. Seek emergency medical attention immediately i molten material enters eyes.

SKIN: Remove material off exposed areas. Wash residue off with soap and water. See physician. Obtain immediate medical attention if molten material is spilled on skin.

INGESTION: Seek medical attention immediately.

INHALATION: Remove to fresh air. If not breathing, give mout to mouth resuscitation. If breathing is difficult, give oxyge and obtain medical help immediately.

X) HANDLING PRECAUTIONS:

EXPOSURE GUIDELINES: Hazardous components are absorbed through the skin. Isolate areas where material is stored or used from other areas of the plant or enclose processes that use this material. Install local exhaust systems with proper filtration equipment in addition to general ventilation. Practice good industrial hygiene. Wash exposed areas after use of this material. Do not exceed OSHA exposure limits of page one.

VENTILATION: Provide general and/or local exhaust with proper filtration equipment to control airborne levels below exposure limits.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below exposure limits. When respiratory protection is needed for certain operations, use only approved (NIOSH) organic cartridge respirators. For emergency and other conditions where OSHA limits may be greatly exceeded, use approved (NIOSH) positive pressure self-contained breathing apparatus.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron or full body suit will depend on operation. Remove contaminated clothing, wash skin area with soap and water. Use at a minimum long-sleeved work clothes, impervious disposable gloves and shoe covers.

EYE PROTECTION: Use chemical safety goggles. Where contact with this material in molten form is likely, chemical goggles combined with a full face shield is recommended for full protection.

XI) ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS OR LEAKS: Evacuate and ventilate spill area, dike spill to prevent entry into water systems, wear full protective equipment including respiratory equipment during clean-up.

MAJOR SPILL: If during transportation, call CHEM-TREC at (800) 424-9300. Large quantities may be scooped up into closed containers and disposed. Molten material should be allowed to cool before clean-up. Decontaminate area.

MINOR SPILL: Place into open top containers. Decontaminate spill area.

CLEAN-UP: Decontaminate floor using suitable solvent such as dimethyl sulfoxide or methylethyl ketone. Use of solvent to decontaminate spill area may result in greater danger due to flammable vapors. Use appropriate precautions.

DISPOSAL METHOD: Follow all federal, state and local regulations. Although this product is not specifically listed as a hazardous waste it does contain 4,4'-Methylenebis-2-chloroaniline which is listed as a hazardous waste. Empty drums meeting the RCRA definition of empty" are usually crushed and landfilled in a permitted facility.

XII) ADDITIONAL INFORMATION:

HANDLING AND STORAGE: Store material in original containers. Do not reuse empty containers as residue may be hazardous. Do not cut or use torch on empty containers. Isolate storage areas.

XIII TRANSPORTATION INFORMATION:

D.O.T. SHIPPING NAME.....:	RQ, Hazardous Substance Liquid, n.o.s., (4,4'-Methylenebis-2 -chloroaniline)
TECHNICAL SHIPPING NAME.....:	None
D.O.T. HAZARD CLASSIFICATION.:	ORM-E
UN/NA NUMBER.....:	NA 9188
PRODUCT REPORTABLE QUANTITY..:	24 lbs for 4,4'-Methylenebis-2-chloroaniline
D.O.T. LABELS REQUIRED.....:	None
D.O.T. PLACARDS REQUIRED.....:	None
PRODUCT LABEL NAME.....:	Curene 3005
LAST ISSUE TO CHEM-TREC.....:	12/31/90

XIV) U.S. REGULATORY INFORMATION:

CALIFORNIA PROPOSITION 65:

4,4'-Methylenebis-2-chloroaniline is known to cause cancer by the State of California.

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SARA SECTION 313 INFORMATION:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CHEMICAL	CAS NUMBER	WT%
4,4'-Methylene bis (2-chloroaniline)	101-14-4	41.2

This information should be included in all MSDS's that are copied and distributed for this material.

This MSDS complies with 29 CFR 1910.1200 (THE HAZARDOUS COMMUNICATION STANDARD). Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Anderson Development Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Anderson Development Company be responsible for damages of any nature whatsoever resulting from the use of, misuse or reliance upon information. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure its activities comply with federal, state or provincial, and local laws and regulations.

APPROVED BY: Michael Boozer **TITLE.....:** Environmental Mgr.
ISSUE DATE.: 12/31/90 **SUPERCEDES:** 11/15/85