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used in the none dept

MATERIAL SAFETY DATA SHEET



ANDERSON DEVELOPMENT COMPANY

1415 EAST MICHIGAN STREET
ADRIAN, MICHIGAN 49221-3499 U.S.A.

TELEPHONE (517) 263-2121 FAX (517) 263-1000

EMERGENCY TELEPHONE AFTER 5:00 PM EST (517) 263-5487

TRANSPORTATION EMERGENCY CALL CHEMTREC @ 1-800-424-9300

1. PRODUCT IDENTIFICATION

Product Identifier : Curene 442
CAS Registry # : 101-14-4
TSCA Status : Listed
Molecular Formula : Not Applicable
Molecular Weight : Not Applicable
Chemical Family : Aromatic Amine
Chemical Name : 4,4'-Methylene bis (2-chloroaniline)
Synonyms : MOCA

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	WT.%	CAS Registry #
4,4'-Methylene bis (2-chloroaniline)	100%	101-14-4
NTP, ACGIH, IARC Suspected Carcinogen		
SARA Section 313 Toxic Chemical		

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200):

	Exposure Limits 8 hrs. TWA (ppm)		Supplier
	OSHA PEL	ACGIH TLV	
4,4'-Methylene bis (2-chloroaniline)	None	0.01 ppm	

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Minimal acute effects.

POTENTIAL HEALTH 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.

INHALATION: Inhalation of vapors may cause nasal and respiratory tract irritation, Central Nervous System effects, nausea and headache. Excessive or prolonged exposure may cause unconsciousness and asphyxiation.

EYE CONTACT: Vapors from heated product may cause eye irritation and severe damage.

SKIN CONTACT: Hazardous components may be absorbed through the skin. Components may cause cancer based on tests in laboratory animals. May produce cyanosis. May 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, kidney, and central nervous system damage. May produce cyanosis. 4,4'-Methylene bis-2-chloroaniline single oral dose toxicity: Oral LD₅₀ for rats is 2,100 mg/kg. Material aspirated into lungs may cause chemical pneumonitis.

TARGET ORGANS: May effect kidney function.



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3. HAZARDS IDENTIFICATION (Continued)

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

4. FIRST AID MEASURES

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

EYE CONTACT: Rinse with water immediately for 15 minutes. See physician. Seek emergency medical attention immediately.

SKIN CONTACT: Remove material from exposed areas. Wash residue off with soap and water. See physician

INGESTION: Do not induce vomiting. Seek medical attention immediately. Material aspirated into lungs may cause chemical pneumonitis.

5. FIRE FIGHTING MEASURES

Flashpoint and Method : >300°F COC **Flammable Limits** : Not Applicable
Autoignition Temperature : Unknown

GENERAL HAZARD: Downwind personnel should be evacuated. Do not reseal contaminated containers as pressure build-up may rupture them. Avoid skin contact.

FIRE FIGHTING INSTRUCTIONS: Carbon dioxide, dry chemical or foam as extinguishing media

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.

HAZARDOUS COMBUSTION PRODUCTS: Product is combustible and will release toxic vapors such as hydrochloric acid, carbon dioxide, carbon monoxide, nitrogen oxides, chlorine, ortho-chloroaniline, nitroso amines while burning.

	NFPA	HMIS
Fire:	0	X
Health:	2	X
Reactivity:	0	X
Specific:	-	X



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6. STABILITY AND REACTIVITY

GENERAL: Stable under normal storage conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Strong acids and bases. Oxidizers and reducing agents. Reactive metals such as aluminum or magnesium and other reactive chemicals such as liquid ammonia.

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

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient

GENERAL: 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: 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 exposure limits of page one.

PERSONAL PROTECTIVE EQUIPMENT:

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

PROTECTIVE CLOTHING: 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 is likely, chemical goggles and face shield is recommended for full protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE	: 1.0×10^{-4} mm Hg	FREEZING POINT	: 98-108°C
VAPOR DENSITY	: Not Applicable	VISCOSITY	: Not Applicable
SPECIFIC GRAVITY	: ~1.26 @ 107°C	ODOR	: Slight
SOLUBILITY IN WATER	: Slight	APPEARANCE	: Yellow to Tan Pellets
EVAPORATION RATE	: Not Applicable	PHYSICAL STATE	: Solid
pH	: Not Applicable	VOLATILES	: 1-3%
BOILING POINT	: 202-214°C	DECOMPOSITION TEMP	: ~400°F



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10. ACCIDENTAL RELEASE MEASURES

LAND SPILL: Evacuate and ventilate spill area, dike spill to prevent entry into water systems, wear full protective equipment including respiratory equipment during clean-up. 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 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.

WATER SPILL: No Data.

11. TOXICOLOGICAL INFORMATION

Toxicity Data: 4,4'-Methylene bis (2-chloroaniline) LD(50) = 2100mg/kg Rats

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

Follow all federal, state and local regulations. Although this product is not specifically listed as a hazardous waste, it should be tested for hazardous Characteristics before disposal in its liquid form using EPA TCLP test methods. Empty drums meeting the RCRA definition of "empty" are usually crushed and landfilled in a permitted facility.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION):

PROPER SHIPPING NAME: RQ Environmentally Hazardous Substance, Solid, N. O. S. , (4,4'-Methylene bis-(2-chloroaniline))

HAZARD CLASS: 9

IDENTIFICATION NUMBER (UN/NA): UN 3077

Packing Group: PG III

Reportable Quantity: 10 pounds

15. REGULATORY INFORMATION

SARA TITLE III (Superfund Amendments and Reauthorization Act): 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

4,4'-Methylene bis (2-chloroaniline)

CAS NUMBER

101-14-4

WT%

100%

CALIFORNIA PROPOSITION 65: 4,4'-Methylenebis-(2-chloroaniline) is known to cause cancer by the State of California.



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16. OTHER INFORMATION

This MSDS complies with 29 CFR 1910.1200 (THE HAZARD 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.

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Doc. Control:

MS06903A

PREPARED BY Anderson Development Company Safety & Environmental Dept.