

# MATERIAL SAFETY DATA SHEET

## COLOREX - MPD

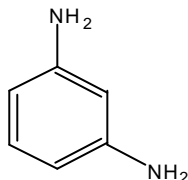
### SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

<b>MANUFACTURER NAME</b>	<b>CHEMICAL COMPOUNDS, INC. 29-75</b>
<b>RIVERSIDE AVE. NEWARK, NJ 07104</b>	
<b>REVISION DATE</b>	April 4, 2000
<b>CHEMICAL NAME</b>	1,3-Phenylenediamine
<b>CTFA ADOPTED NAME</b>	<i>m</i> -PHENYLENEDIAMINE
<b>EMPIRICAL FORMULA</b>	C <sub>6</sub> H <sub>8</sub> N <sub>2</sub>

### SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

CAS #	EINECS/ELINCS	Molecular Weight
108-45-2	203-584-7	108.14

#### STRUCTURAL FORMULA:



**Synonyms:** M-AMINOALINE \* 3-AMINOANILINE \* APCO 2330 \* M-BENZENEDIAMINE \* 1,3-BENZENEDIAMINE (9CI) \* C.I. 76025 \* DEVELOPER 11 \* DEVELOPER C \* DEVELOPER H \* DEVELOPER M \* M-DIAMINO BENZENE \* 1,3-DIAMINO BENZENE \* DIRECT BROWN BR \* DIRECT BROWN GG \* M-FENYLENDIAMIN (CZECH) \* METAPHENYLENEDIAMINE \* PHENYLENEDIAMINE \* 1,3-PHENYLENEDIAMINE

### SECTION 3: HAZARDS IDENTIFICATION

#### LABEL PRECAUTIONARY STATEMENTS

TOXIC

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

POSSIBLE MUTAGEN.

READILY ABSORBED THROUGH SKIN.

TARGET ORGAN(S):

LIVER

KIDNEYS

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE

IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

DO NOT BREATHE DUST.

SECTION 4: FIRST AID MEASURES
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<b>EMERGENCY AND FIRST AID PROCEDURES</b>	Eyes; flush immediately with plenty of cold water for 15 minutes. Get prompt medical attention. Skin; wash exposed skin with soap and water. Get medical attention if irritation occurs. Inhalation: remove to fresh air; administer oxygen if breathing is difficult. If breathing has stopped, apply artificial respiration & seek immediate medical attention. Ingestion; seek medical attention. Do not induce vomiting, immediately transport the individual to a hospital.
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SECTION 5: FIREFIGHTING MEASURES
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<b>FLASH POINT (Deg. C)</b>	>110
<b>FLAMMABLE LIMITS</b>	No known explosive mixtures with air
<b>EXTINGUISHING MEDIA</b>	Foam, Dry Chemical, or Water Spray.
<b>SPECIAL FIRE FIGHTING PROCEDURES</b>	Wear proper protective equipment and use a self-contained breathing apparatus
<b>UNUSUAL FIRE AND EXPLOSION HAZARDS</b>	Emits toxic fumes under fire conditions

SECTION 6: ACCIDENTAL RELEASE MEASURES
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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

Evacuate area. Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Sweep up, place in bag and hold for waste disposal. Avoid raising dust. Ventilate the area and wash spill site after material pick up is complete.

**WASTE DISPOSAL METHOD:**

The spilled material should be taken to an approved landfill or chemical incinerator, observe all Federal, State and local regulations. Do not flush to surface water or sanitary sewer system.

SECTION 7: HANDLING AND STORAGE
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**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:**

Store in closed containers away from heat. Use only with adequate ventilation. Avoid breathing in vapor. Wear proper safety equipment to avoid skin and eye contact.

**OTHER PRECAUTIONS:**

Workers should shower and wear a fresh change of clothing after each shift. Wash all exposed areas with soap and water before eating and after handling material.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION
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HAZARDOUS COMPONENTS	%	ACGIH TLV	OSHA PEL	C.A.S. NO.
<i>m</i> -Phenylenediamine	100%	0.1 mg./m <sup>3</sup> , TWA	0.1 mg./m <sup>3</sup> , TWA	108-45-2

<b>RESPIRATORY PROTECTION</b>	Wear appropriate NIOSH/MSHA-approved respirator.
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<b>VENTILATION</b>	Use in chemical fume hood
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<b>PROTECTION GLOVES</b>	Chemical Resistant Rubber/Vinyl Gloves
<b>EYE PROTECTION</b>	Chemical resistant splash goggles or shield

<b>OTHER PROTECTIVE EQUIPMENT</b>	Impervious & disposal clothing
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<b>SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>APPEARANCE</b>	Light Gray
<b>ODOR</b>	N/A
<b>SPECIFIC GRAVITY</b>	N/A
<b>BOILING POINT (Deg C.)</b>	282-284 Deg. C
<b>MELTING POINT (Deg C.)</b>	N/A
<b>VAPOR PRESSURE (mm Hg.)</b>	0.62 mm Hg @100°C
<b>SOLUBILITY IN WATER</b>	N/A
<b>PERCENT VOLATILE BY VOLUME:</b>	N/A
<b>EVAPORATION RATE</b>	N/A

<b>SECTION 10: STABILITY AND REACTIVITY</b>
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<b>STABILITY</b>	Reasonably Stable
<b>CONDITIONS TO AVOID</b>	May decompose on exposure to light
<b>INCOMPATIBILITY</b>	Avoid acids, acid chlorides, acid anhydrides, chloroformates, and strong oxidizing agents.
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	Carbon monoxide, carbon dioxide and nitrogen oxides.
<b>HAZARDOUS POLYMERIZATION</b>	Will not occur

<b>SECTION 11: TOXICOLOGICAL INFORMATION</b>
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**ACUTE EFFECTS**

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

EXPOSURE CAN CAUSE:

NAUSEA, DIZZINESS AND HEADACHE

DERMATITIS

PULMONARY EDEMA. EFFECTS MAY BE DELAYED.

MAY CAUSE DISCOLORATION OF THE SKIN.

MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.

CAUSES EYE AND SKIN IRRITATION.

MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS.

**CHRONIC EFFECTS**

TARGET ORGAN(S):

LIVER

KIDNEYS

BLADDER

RTECS #: SS7700000

M-PHENYLENEDIAMINE

**IRRITATION DATA**

EYE-RBT 100 UL SEV

NTIS\*\* OTS0559504

**TOXICITY DATA**

ORL-RAT LD50:280 MG/KG

GISAAA 53(7),62,1988

IPR-RAT LD50:283 MG/KG

JTEHD6 2,657,1977

UNR-RAT LD50:351 MG/KG

GTPZAB 31(8),46,1987

ORL-MUS LD50:67700 UG/KG

GISAAA 53(7),62,1988

SCU-MUS LD50:90 MG/KG	KJMSAH 13,175,1962
UNR-MUS LD50:65300 UG/KG	GTPZAB 31(8),46,1987
ORL-RBT LD50:437 MG/KG	GISAAA 53(7),62,1988
UNR-RBT LD50:438 MG/KG	GTPZAB 31(8),46,1987
ORL-GPG LD50:450 MG/KG	GISAAA 53(7),62,1988
UNR-GPG LD50:450 MG/KG	GTPZAB 31(8),46,1987
ORL-BWD LD50:562 MG/KG	AECTCV 12,355,1983

**TARGET ORGAN DATA**

BEHAVIORAL (SOMNOLENCE)  
 BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)  
 LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)  
 LUNGS, THORAX OR RESPIRATION (CYANOSIS)  
 LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)  
 KIDNEY, URETER, BLADDER (OTHER CHANGES IN URINE COMPOSITION)  
 EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)  
 TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)  
 TUMORIGENIC (TUMORS AT SITE OF APPLICATION)

**ADDITIONAL INFORMATION**

RECOMMENDED TWA AIR-BORNE LIMIT OF 0.1MG/M3.  
 IHL-RAT LC50:3.2 MG/L/4H  
 ORL-RAT LD50:650 MG/KG  
 ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES  
 (RTECS) DATA IS PRESENTED HERE.

**SECTION 12: ECOLOGICAL INFORMATION**

DATA NOT YET AVAILABLE SECTION 13: DISPOSAL CONSIDERATION

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A  
 CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.  
 OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14: TRANSPORTATION INFORMATION**

<b>SARA TITLE III 40 CFR 355 (SECTION 302)</b>	NO
<b>CERCLA HAZARDOUS MATERIAL 40 CFR 302 (TABLE 302.4)</b>	NO
<b>SARA TITLE III HAZARD CLASSIFICATIONS (SECTION 311, 312)</b>	ACUTE - YES
CHRONIC - YES FIRE - NO REACTIVITY - NO PRESSURE - NO	
<b>SARA TITLE III 40 CFR 372 (SECTION 313)</b>	YES
<b>DOT REGULATED</b>	YES
<b>SHIPPING NAME</b>	Phenylenediamines
<b>HAZARD CLASS</b>	6.1, Packing Group III, UN#1673
<b>DOT LABEL REQUIRED</b>	TOXIC
<b>NFPA Rating</b>	Health - 3 Fire - 1 Reactivity - 0 Special - 3

(Personal Protection Equipment)

**SECTION 15: REGULATORY INFORMATION**

**EUROPEAN INFORMATION**

TOXIC  
 R 23/24/25  
 TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
 R 36/37/38  
 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.  
 R 42/43  
 MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.  
 R 40  
 POSSIBLE RISK OF IRREVERSIBLE EFFECTS.  
 S 45  
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

S 22

DO NOT BREATHE DUST.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-NOT CLASSIFIABLE AS A HUMAN CARCINOGEN DTLVS\* TLV/BEI,1999

ACGIH TLV-TWA 0.1 MG/M3 DTLVS\* TLV/BEI,1999

IARC CANCER REVIEW:ANIMAL INADEQUATE EVIDENCE IMEMDT 16,111,1978

IARC CANCER REVIEW:HUMAN NO ADEQUATE DATA IMEMDT 16,111,1978

IARC CANCER REVIEW:GROUP 3 IMSUDL 7,56,1987

OEL-SWITZERLAND:TWA 0.1 MG/M3;SKIN JAN 1993

OEL-AUSTRIA: SKIN, SUSPECTED CARCINOGEN, JAN1999

OEL-DENMARK: TWA 0.1 MG/M3, JAN1999

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

NOHS 1974: HZD 83124; NIS 18; TNF 1364; NOS 21; TNE 12590

NOES 1983: HZD 83124; NIS 12; TNF 3739; NOS 18; TNE 40632; TFE 32320

EPA GENETOX PROGRAM 1988, POSITIVE: SHE-CLONAL ASSAY; HISTIDINE

REVERSION-AMES TEST

EPA GENETOX PROGRAM 1988, INCONCLUSIVE: RODENT DOMINANT LETHAL

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA 8(A) PRELIMINARY ASSESSMENT INFORMATION, FINAL RULE

FEREAC 47,26992,82

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

ON EPA IRIS DATABASE

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, DECEMBER 1999

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

<b>SECTION 16: ADDITIONAL INFORMATION</b>
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The information and recommendations set forth herein are presented in good faith and believed to be as correct as of the date hereof, Chemical Compounds Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the receiving will make their own determination as to its suitability for their purposes prior to use. In no event will Chemical Compounds Inc. be responsible for damage of any nature whatsoever resulting from the use of or the reliance upon information.