

MATERIAL SAFETY DATA SHEET

Date Printed: 10.10.2012

Date Updated: 07.08.2012

Version 1.8

Section 1 - Product and Company Information

Product Name DIMETHYL PHTHALATE, 99%
Product Number D178985
Brand ALDRICH

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
DIMETHYL PHTHALATE	131-11-3	Yes

Formula C10H10O4
Synonyms Avolin * 1,2-Benzenedicarboxylic acid, dimethyl ester * Dimethyl 1,2-benzenedicarboxylate * Dimethyl benzene-o-dicarboxylate * Dimethyl benzeneorthodicarboxylate * Dimethylester kyseliny ftalove (Czech) * Dimethyl phthalate (ACGIH:OSHA) * Dimethyl o-phthalate * o-Dimethyl phthalate * DMF (insect repellent) * ENT 262 * Fermine * Methyl phthalate * Mipax * NTM * Palatinol M * Phthalate acid, dimethyl ester * Phthalic acid methyl ester * Phthalsaeuredimethylester (German) * RCRA waste number U102 * Repeftal * Solvanom * Solvarone * Unimoll DM
RTECS Number: TI1575000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Readily absorbed through skin. Target organ(s): Nerves.

HMIS RATING

HEALTH: 0*
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING

HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

294,800 °F 146,000 °C Method: closed cup

EXPLOSION LIMITS

Lower: 0,940 % Upper: 8,030 %

AUTOIGNITION TEMP

556,00 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam. Foam and water spray are effective but may cause frothing.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.
Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand: Protective gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	5 MG/M3
USA	MSHA Standard-air	TWA	5 MG/M3
USA	OSHA.	PEL	8H TWA 5 MG/M3

New Zealand OEL

Remarks: check ACGIH TLV

USA	NIOSH	TWA	5 MG/M3
-----	-------	-----	---------

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	5 MG/M3
Poland		NDSch	10 MG/M3
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Clear liquid
	Color: Colorless

Property	Value	At Temperature or Pressure
Molecular Weight	194,1900 AMU	
pH	N/A	
BP/BP Range	282,000. - 284,000 °C.	
MP/MP Range	2,000 °C	
Freezing Point	N/A	
Vapor Pressure	1,0000000000 mmHg	100,00 °C
Vapor Density	6,690 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1,1910 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	

Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	0,011 Pas	25,000 °C
Surface Tension	N/A	
Partition Coefficient	Log Kow: 1,470	
Decomposition Temp.	N/A	
Flash Point	294,800 °F	Method: closed cup
	146,000 °C	
Explosion Limits	Lower: 0,940 %	
	Upper: 8,030 %	
Flammability	N/A	
Autoignition Temp	556,00 °C	
Refractive Index	1,5170	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Slightly.	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Oxidizing agents, Acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Readily absorbed through skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Nerves.

SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause: CNS depression. Gastrointestinal disturbances. Damage to the kidneys.

TOXICITY DATA

Oral

Rat

8.239, mg/kg

LD50

Oral

Mouse

8.597, mg/kg

LD50

Skin
Rabbit
> 11.940, mg/kg
LD50

Oral
Rat
6800,000000 mg/kg
LD50

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain. Behavioral:Somnolence (general depressed activity). Behavioral:Withdrawal.

Skin
Rat
> 4800,000000 mg/kg
LD50

Intraperitoneal
Rat
3375 UL/KG
LD50

Oral
Mouse
6800,000000 mg/kg
LD50
Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain. Behavioral:Withdrawal.
Behavioral:Somnolence (general depressed activity).

Intraperitoneal
Mouse
1380 MG/KG
LD50

Oral
Rabbit
4400 UL/KG
LD50

Skin
Rabbit
>20 ML/KG
LD50

Oral
Guinea pig
2400 UL/KG
LD50

Skin
Guinea pig
>10 ML/KG
LD50

Oral
Chicken
8500 UL/KG
LD50

IRRITATION DATA

Skin

Human

Remarks: No irritation effect

Eyes

Rabbit

Remarks: Mild irritation effect

Eyes

Human

Remarks: Mild irritation effect

Eyes

Rabbit

119,000000 mg

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - TERATOGEN

Result: Possible risk of congenital malformation in the fetus.

Species: Rat

Dose: 338 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (5-15D PREG)

Result: Specific Developmental Abnormalities: Eye, ear. Specific Developmental Abnormalities: Other developmental abnormalities.

Species: Rat

Dose: 1125 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (5-15D PREG)

Result: Effects on Embryo or Fetus: Fetal death.

CHRONIC EXPOSURE - MUTAGEN

Species: Rat

Route: Skin

Dose: 25 GM/KG

Exposure Time: 4W

Mutation test: Cytogenetic analysis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Rat

Dose: 338 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (5-15D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat

Dose: 1500 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (3-9D PREG)
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96,0 h
Value: 121,000 mg/l

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 96,0 h
Value: 56,000 mg/l

Test Type: LC50 Fish
Species: Lepomis macrochirus (Bluegill)
Time: 96,0 h
Value: 50,000 mg/l

Test Type: LC50 Fish
Species: Cyprinodon variegatus (Sheepshead minnow)
Time: 96,0 h
Value: 29,000 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48,0 h
Value: 46,000 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. 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 - Transport Information

DOT

Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s.
UN#: 3082
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US CLASSIFICATION AND LABEL TEXT

US Statements: Readily absorbed through skin. Target organ(s):
Nerves.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

DEMINIMIS: 1,000 %

NOTES: This product is subject to SARA section 313 reporting requirements.

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.