Material Safety Data Sheet

Version 3.0
Revision Date 08/23/2008
Print Date 12/26/2008

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dimethoate

Product Number : 45449
Brand : Fluka

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C5H12NO3PS2
Molecular Weight : 229.28 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Dimethoate			
60-51-5	200-480-3	015-051-00-4	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Toxic by ingestion, Toxic by skin absorption

Target Organs

Central nervous system, Heart, Blood, Eyes

HMIS Classification

Health Hazard: 2
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

NFPA Rating

Health Hazard: 2
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin Toxic if absorbed through skin. May cause skin irritation.

Eyes	May cause eye irritation.
Ingestion	Toxic if swallowed.

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point	107.00 °C (224.60 °F) - closed cup
Ignition temperature	no data available

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions
Do not let product enter drains.

Methods for cleaning up
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves.

Eye protection
Safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	solid
Odour	characteristic

Safety data

pH	no data available
Melting point	no data available
Boiling point	107 °C (225 °F) at 0.07 hPa (0.05 mmHg)
Flash point	107.00 °C (224.60 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1.5 hPa (1.1 mmHg) at 25 °C (77 °F)
Density	1.277 g/cm3
Water solubility	no data available

10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas, nitrogen oxides (NOx), Hydrogen sulfide gas, Phosphorous oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 60 mg/kg

LD50 Dermal - rabbit - 1,000 mg/kg
Remarks: Behavioral:Excitement.

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

Carcinogenicity - rat - Oral
Tumorigenic:Carcinogenic by RTECS criteria. Liver:Tumors. Blood:Tumors.

Carcinogenicity - rat - Intramuscular
Tumorigenic:Carcinogenic by RTECS criteria. Liver:Tumors. Blood:Tumors.

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Genotoxicity in vitro - mouse - S. typhimurium
Host-mediated assay

Genotoxicity in vitro - Human - lymphocyte
Cytogenetic analysis

Genotoxicity in vitro - Human - lymphocyte
Sister chromatid exchange

Genotoxicity in vitro - Human - lymphocyte
Micronucleus test

Genotoxicity in vitro - Human - fibroblast
Unscheduled DNA synthesis

Genotoxicity in vivo - rat - Intraperitoneal
Cytogenetic analysis

Genotoxicity in vivo - rat - Intraperitoneal
Micronucleus test

Genotoxicity in vivo - mouse - Intraperitoneal
Cytogenetic analysis

Genotoxicity in vivo - mouse - Intraperitoneal
Unscheduled DNA synthesis

Developmental Toxicity - mouse - Oral
Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - mouse - Intraperitoneal
Effects on Embryo or Fetus: Fetal death.

Developmental Toxicity - rat - Oral
Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - mouse - Oral
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Reproductive toxicity - rat - Oral
Maternal Effects: Other effects. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Other effects to embryo.

Reproductive toxicity - mouse - Oral
Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated). Effects on Fertility: Other measures of fertility Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day 4).

Signs and Symptoms of Exposure

Nausea, Vomiting, Weakness, Dizziness, Vertigo, Headache, Sweating, loss of appetite, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	Toxic if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	Toxic if swallowed.
Target Organs	Central nervous system, Heart, Blood, Eyes,

Additional Information
RTECS: TE1750000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 6.2 mg/l - 96 h
	mortality NOEC - Poecilia retiaculata (guppy) - 5 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	mortality NOEC - Daphnia magna (Water flea) - 0.6 mg/l - 48 h
	EC50 - Daphnia magna (Water flea) - 2.9 mg/l - 48 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. 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.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solids, organic, n.o.s. (Dimethoate)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 2811 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Dimethoate)
Marine pollutant: Severe marine pollutant

IATA
UN-Number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solid, organic n.o.s. (Dimethoate)

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Toxic by ingestion, Toxic by skin absorption

DSL Status
This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

	CAS-No.
Dimethoate	60-51-5

SARA 302 Components

	CAS-No.	Revision Date
Dimethoate	60-51-5	1991-07-01

SARA 313 Components

	CAS-No.	Revision Date
Dimethoate	60-51-5	1991-07-01

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Dimethoate	60-51-5	1991-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Dimethoate	60-51-5	1991-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Dimethoate	60-51-5	1991-07-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

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 Co., 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.