



Safety Data Sheet

Issue Date 13-Jun-2013

Revision Date: 30-Jun-2013

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Dibutyl Maleate

Other means of identification

SDS # NC-007

Other Information Trade Name: DBM.

Recommended use of the chemical and restrictions on use

Recommended Use Maleate Plasticizers.

Details of the supplier of the safety data sheet

Supplier Address

Neuchem Inc.
2062 Union Street, Suite 300
San Francisco, CA 94123 USA
www.neuchem.com

Emergency Telephone Number

Company Phone Number Phone: 415-345-9353
Fax: 415-345-9350
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America) Account No. 100534

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Signal Word

Warning

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation



Appearance Clear liquid

Physical State Liquid

Odor Characteristic

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Get medical attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation persists: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Get medical advice / attention

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)

May be harmful if swallowed

Other Hazards

Toxic to aquatic life with long lasting effects
 Toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Dibutyl maleate	105-76-0	80-100

4. FIRST-AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. If irritation persists, seek medical attention.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do not induce vomiting without medical advice. Call a physician or poison control center immediately.

Most important symptoms and effects

Symptoms See Section 11: Toxicological Information of this SDS for more detailed symptoms.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire Foam, chemical powder, CO₂, water spray or fog.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustible product. Risk of fire if exposed to flame or heat. The heating can cause expansion or decomposition, leading to violent burst of the containers. Mists with combustible products can be explosive. Avoid reactions with oxidizing agents.

Hazardous Combustion Products Toxic fumes of carbon monoxide or irritant smoke.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Wear protective gloves. Prevent, by any means, spillage from entering drains or waterways. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. Do not approach containers suspected to be hot. Cool fire-exposed containers with water spray from a protect location. If safe to do so, remove containers from path of fire.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions Wear protective clothing as described in Section 8 of this safety data sheet. Small Spills: Clean up spills immediately. Wear impervious gloves and safety glasses.

Large spills: clear area of personnel. Wear protective clothing, impervious gloves and safety glasses. Shut off all possible sources of ignition and increase ventilation.

For Emergency Responders Follow applicable OSHA regulations (29 CFR 1910.120).

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. In case of small spills, wipe up and absorb small quantities with vermiculite or other absorbent material. large spills, absorb or cover spill with sand, earth, inert material or vermiculite.

Methods for Clean-Up Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations. For waste disposal, see section 13 of the SDS.

Prevention of Secondary Hazards Spills may present a slipping hazard.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid breathing mist and vapor, especially at high temperature. Use in a well-ventilated area. Avoid prolonged and repeated skin contact. Avoid contact with eyes. Keep containers securely sealed when not in use. Wash hands with soap and water after handling. Use only in well-ventilated areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up.

Packaging Materials In bulk, stainless steel or carbon steel, aluminum or reinforced plastic tanks with vent. Check if the containers are clearly labeled.

Incompatible Materials Strong oxidizing agents; Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines The following information is given as general guidance

Appropriate engineering controls

Engineering Controls General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. Provide adequate ventilation in warehouse or closed storage areas. In the area where product is handled, keep an emergency shower and eyewash unit.

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special equipment when handling small quantities. Otherwise, wear safety glasses with side shields. Contact lenses pose a special hazard. Soft lenses can absorb irritants and all lenses concentrate them.

Skin and Body Protection Wear chemical protective gloves, i.e. PVC gloves with polyethylene liner or latex. Safety shoes. Apron made of PVC, trevira or equivalent.

Respiratory Protection If risk of overexposure exists, use semi-facial respirator with filter for organic vapors.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquid	Odor	Characteristic
Appearance	Clear liquid	Odor Threshold	Not determined
Color	Clear		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting Point/Freezing Point	Not applicable	
Boiling Point/Boiling Range	280.6 °C / 537.08 °F	
Flash Point	140.5 °C / 284.9 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	

Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	0.9960-0.9964	@ 68°F (20°C)
Water Solubility	Insoluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not an explosive	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Incompatible Materials.

Incompatible Materials

Strong oxidizing agents; Strong bases.

Hazardous Decomposition Products

Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Causes serious eye irritation.
Skin Contact	Causes skin irritation.
Inhalation	May cause respiratory irritation.
Ingestion	May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Dibutyl maleate 105-76-0	= 3700 mg/kg (Rat)	= 10 g/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see below for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Product can be slightly uncomfortable to the skin. Sensitization can result as a response of allergic dermatitis including eruptions, itching, urticaria or ends swelling. Material can produce skin irritation after prolonged or repeated exposure and can produce contact dermatitis (non-allergic). This form of dermatitis is often characterized by redness and skin swelling, and then can evolve to vesicles formation, scale and epidermis swelling. Histologically, it can produce intercellular edema of the spongy layer and intracellular edema of epidermis.

Serious eye damage/eye irritation Material can be slightly uncomfortable to eyes and is capable of causing slight, temporary conjunctiva redness (similar to windburn), temporary damage to vision and/or other transient ulcerations/damages. It can be irritating to eyes, prolonged contact can cause inflammation. Repeated or prolonged exposure to irritants can produce conjunctivitis.

Irritation Inhalation: Normally, it does not pose a risk due to the non-volatile nature of the product. Vapors inhalation is more probable at elevated temperatures than at normal ones. The vapor is slightly uncomfortable to the upper respiratory tract and to the lungs. The main effects of aliphatic esters are narcosis, irritation and anesthesia at more elevated concentrations. These effects are aggravated as the molecular weights and boiling points increase. Central nervous system depression, headaches, sleepiness, dizziness, coma and neurobehavioral changes can also be symptoms of overexposure. The involvement of the respiratory tract can produce irritation of mucous membranes, dyspnea and tachypnea, pharyngitis, bronchitis, pneumonitis and under massive exposure, pulmonary edema. Gastrointestinal effects include nausea, vomit, diarrhea and abdominal cramps. Damage to liver and kidneys can result from massive exposure.

Ingestion: Material can be uncomfortable to gastrointestinal tract and can be harmful if swallowed in large amounts. Considered as an improbable entry route in commercial/industrial environments.

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

STOT - single exposure May cause respiratory irritation.

Chronic toxicity There are no available data about human exposure. For this reason, the health effects are based on experience with chemically similar materials.

Target organ effects Skin, eyes, respiratory tract, central nervous system (CNS).

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic organisms. Toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Dibutyl maleate 105-76-0	6.2: 72 h Scenedesmus subspicatus mg/L EC50	6.2: 48 h Leuciscus idus mg/L LC50 static		21: 48 h Daphnia magna mg/L EC50

Persistence/Degradability

Not determined

Bioaccumulation

Not determined

Mobility

Chemical Name	Partition Coefficient
Dibutyl maleate 105-76-0	3.38

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

<u>Note</u>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<u>DOT</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Not determined

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Not determined

US State Regulations**U.S. State Right-to-Know Regulations**

Not determined

16. OTHER INFORMATION**NFPA****Health Hazards**

Not determined

Flammability

Not determined

Instability

Not determined

Special Hazards

Not determined

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

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Revision Note

New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet