



SAFETY DATA SHEET

500440 DIBENZYL ETHER

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Version # 03

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1. IDENTIFICATION

Product Description: DIBENZYL ETHER
CAS # 103-50-4
FEMA Number 2371
Other means of identification
Vigon Item # 500440
Recommended use Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.
Recommended restrictions For Manufacturing Use Only

Company

Vigon International, LLC
127 Airport Road
E. Stroudsburg, PA 18301
For information call: 570-476-6300
Web Site: www.vigon.com

24 Hour Emergency Response Information

INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Vigon International, LLC	
Address	127 Airport Road E. Stroudsburg, PA 18301 United States	
Telephone	For information call:	570-476-6300
Website	www.vigon.com	
E-mail	regulatory@vigon.com	
Emergency phone number	INFOTRAC	(ACCT# 78928);
	1-800-535-5053	WITHIN THE U.S.A.
	1-352-323-3500	OUTSIDE THE U.S.A.

2. HAZARD(S) IDENTIFICATION

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 5
	Sensitization, skin	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

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Label elements



Signal word

Warning

Hazard statement

May be harmful if swallowed. May cause an allergic skin reaction. May cause respiratory irritation. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Avoid breathing mist/vapors. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves.

Response

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage.

Storage

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

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

100% of the substance consists of component(s) of unknown acute inhalation toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Chemical name	Common name and synonyms	CAS number	%
DIBENZYL ETHER	BENZYL ETHER phenylmethoxymethylbenzene BENZYL OXIDE 1,1-oxybis methylene, bis benzene	103-50-4	100

4. FIRST-AID MEASURES

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

Eye contact

Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion

Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

Most important symptoms/effects, acute and delayed

May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash.

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Indication of immediate medical attention and special treatment needed

Not available.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water spray, fog, CO₂, dry chemical, or alcohol resistant foam.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

Specific methods

Use water spray to cool unopened containers.

General fire hazards

Static charges generated by emptying package in or near flammable vapor may cause flash fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

Large Spills: Dike the spilled material, where this is possible. Collect and dispose of spillage as indicated in section 13 of the SDS.

Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains.

Small Spills: Clean surface thoroughly to remove residual contamination. Wipe up with absorbent material (e.g. cloth, fleece).

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the environment. Retain and dispose of contaminated wash water. Contact local authorities in case of spillage to drain/aquatic environment.

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7. HANDLING AND STORAGE

Precautions for safe handling	Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	This substance has no PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Use explosion-proof ventilation equipment to stay below exposure limits.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Face shield is recommended.
Skin protection	
Hand protection	Chemical resistant gloves.
Other	Use of an impervious apron is recommended.
Respiratory protection	Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Refer to Spec Sheet
Physical state	Liquid.
Form	Liquid.
Color	Refer to Spec Sheet
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	38.48 °F (3.6 °C)
Initial boiling point and boiling range	563 °F (295 °C)
Flash point	212.0 °F (100.0 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.

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Explosive limit - upper (%)	Not available.
Vapor pressure	0.02 mm Hg at 25 °C
Vapor density	6.9
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	3.31
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.00 g/cm ³ estimated at 25 °C
Dynamic viscosity	8.72 mPa.s
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Kinematic viscosity	8.743 mm ² /s estimated
Molecular formula	C ₁₄ -H ₁₄ -O
Molecular weight	198.25 g/mol
Oxidizing properties	Not oxidizing.
Specific gravity	1.04 at 25 °C

10. STABILITY AND REACTIVITY

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products if stored and handled as indicated.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact	Causes mild eye irritation.
Ingestion	May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash.

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Information on toxicological effects

Acute toxicity In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. May be harmful if swallowed.

Product	Species	Test Results
DIBENZYL ETHER (CAS 103-50-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	2500 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Product	Species	Test Results
DIBENZYL ETHER (CAS 103-50-4)		
Aquatic		
<i>Acute</i>		
Fish	EC50 Danio rerio	7.6, 96 hours

Persistence and degradability No data is available on the degradability of this substance.

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Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

3.31

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal instructions Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code Not established.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADN

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIBENZYL ETHER)
Transport hazard class(es)	9
Subsidiary class(es)	-
Packing group	III
Environmental hazards	Yes
Labels required	9

ADR

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIBENZYL ETHER)
Transport hazard class(es)	9
Subsidiary class(es)	-
Packing group	III
Environmental hazards	Yes
Labels required	9

RID

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIBENZYL ETHER)
Transport hazard class(es)	9
Subsidiary class(es)	-
Packing Group	III
Environmental Hazards	Yes
Labels required	9
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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DOT**BULK**

UN number	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIBENZYL ETHER)
Hazard class	9
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Packaging exceptions	155
Packaging bulk	241
Labels required	9

DOT**NON-BULK**

Not regulated as dangerous goods.

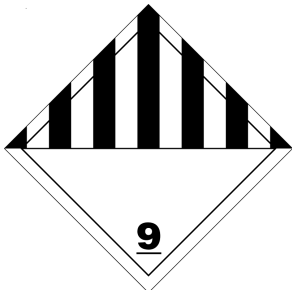
IATA

Not regulated as dangerous goods.

IMDG

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIBENZYL ETHER)
Transport hazard class(es)	9
Subsidiary class(es)	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Labels required	9
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

ADN; ADR; DOT BULK; IMDG; RID



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Marine pollutant



15. REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

Skin corrosion or irritation

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Issue date 11-29-2015

Revision date 04-11-2022



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HMIS® ratings
Health: 2
Flammability: 1
Physical hazard: 0

List of abbreviations
ACGIH: American Conference of Governmental Industrial Hygienists.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
AICIS: Australian Inventory of Industrial Chemicals.
CAS: Chemical Abstract Service.
IARC: International Agency for Research on Cancer.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MARPOL: International Convention for the Prevention of Pollution from Ships.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TWA: Time Weighted Average.

Disclaimer
Vigon International, LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Vigon International, Inc. has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon's knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

Revision information This document has undergone significant changes and should be reviewed in its entirety.