



SAFETY DATA SHEET

BENZYL BENZOATE

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: BENZYL BENZOATE

PRODUCT NO: RM039

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EMERGENCY CONTACT NUMBER:

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Product Classification (REGULATION (EC) No 1272/2008 (CLP) as amended:

Acute toxicity, Category 4, Oral, H302

Hazardous to the aquatic toxicity, Chronic Category 2, H411

Label elements

Product Labelling (REGULATION (EC) No 1272/2008 (CLP) as amended:

Hazard Pictogram(s):



Signal Word:	Warning	
Hazard Statements:	H302	Harmful if swallowed
	H411	Toxic to aquatic life with long lasting effects
Precautionary Statements:	P264 Wash thoroughly after handling	
	P273 Avoid release to the environment	
	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.	
	P330 Rinse mouth	
	P391 Collect spillage	

Supplemental information: No Additional information

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS)-Annex 111 and ECHA Guidance on Labelling and Packaging. Regulations in individual counties/regions may determine which statements are required on the product label. See product label for specifics.

Other Hazards

PBT/vPvB Criteria Not Available

Other Hazards No Additional information

See Section 11 for toxicological information.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance

<u>CAS-No</u>	<u>Chemical Name</u>	<u>Weight%</u>	<u>Classification</u>	<u>H Statements</u>
000120-51-4	Benzyl benzoate	95-100	Acute Tox 4 Oral-Aquatic Chronic 2	H302-411
<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Weight%</u>	<u>REACH Registration</u>	<u>EC Number</u>
000120-51-4	Benzyl benzoate	95-100	Not Available	204-402-9

see Section 16. For full text of H (Hazard) statements (EC 1272/2008).

Amounts Specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and /or present at amounts below reportable limits.

4 FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

General.

If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye Contact

Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

Skin Contact

Wash the affected area thoroughly with plenty of soap and water. Get medical attention if symptoms occur.

Inhalation

If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection for first aid responders: Wear proper personal protective clothing and equipment.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Irritant Pre-existing skin problems may be aggravated by prolonged or repeated contact. See section 11 for additional information.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable: Use water spay, ABC dry chemical, foam or Carbon dioxide. Water or Foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unsuitable None known

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Unusual fire/explosion hazards: Product is not considered a fire hazard, but will burn if ignited. Closed container may rupture (due to build up in pressure) when exposed to extreme heat.

Hazardous combustion products Irritating or toxic substances may be emitted upon burning, combustion or decomposition See section 10 (10 Hazardous decomposition products) for additional information.

ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during clean-up immediately after a fire as well as during the attack phase of firefighting operations.

See Section 9 for additional information.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal protective Equipment must be worn.

ENVIRONMENTAL PRECAUTIONS

Do not flush liquid into public sewer, water systems or surface waters.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labelled, closed container, store in safe location to await disposal. Change contaminated clothing and launder before reuse.

REFERENCE TO OTHER SECTIONS

see Section 8 for recommendations on the use of personal protection Section 13 for waste disposal.

7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Do not ingest, taste, or swallow. Wash thoroughly after handling this product. always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact inhalation of aerosol mist, spray, fume or vapor. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store cool and dry under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabelled or mislabelled containers. Keep container closed when not in use. Empty container contains residual product which may exhibit hazards of product. do not reuse empty container without commercial cleaning or reconditioning. Product can easily oxidize. It is recommended that opened containers be padded with nitrogen. protect from light.

SPECIFIC END USE(S)

No Additional Information

8 EXPOSURE CONTROLS/PERSONAL PROTECTION**CONTROL PARAMETERS****Occupational exposure limits (OEL):**

<u>Chemical Name</u>	<u>EU OELV</u>	<u>EU I OELV</u>	<u>ACGIH- TWA/CEILING</u>	<u>ACGIH-STEL</u>
Benzyl benzoate	N/E	N/E	N/E	N/E

<u>Chemical Name</u>	<u>UK WEL</u>	<u>Ireland OEL</u>
Benzyl benzoate	N/E	N/E

N/E= Not established (no exposure limits established for the listed substances for listed country/region/region/organization).

Derived No Effect Levels (DNELs)- Workers:

<u>Chemical Name</u>	<u>Inhalation-Acute (local)</u>	<u>Inhalation-Acute (systemic)</u>	<u>Inhalation-Long Term (local)</u>	<u>Inhalation-Long Term (systemic)</u>
Benzyl benzoate	N/E	N/E	N/E	N/E

<u>Chemical Name</u>	<u>Dermal-Acute (local)</u>	<u>Dermal-Acute (systemic)</u>	<u>Dermal-Long Term (Long)</u>	<u>Dermal-Long Term (systemic)</u>
Benzyl benzoate	N/E	N/E	N/E	N/E

Predicted No Effect Concentration (PNECs)

<u>Chemical Name</u>	<u>Freshwater</u>	<u>Marine water</u>	<u>Intermittent releases</u>	<u>Soil</u>
Benzyl benzoate	N/E	N/E	N/E	N/E

<u>Chemical Name</u>	<u>Sediment (freshwater)</u>	<u>Sediment (Marine)</u>	<u>STP</u>	<u>Oral</u>
Benzyl benzoate	N/E	N/E	N/E	N/E

N/E = Not established; N/A=Not applicable (not required); bw =body weight; dw=dry weight; ww=wet weight.

EXPOSURE CONTROLS:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist, and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION Wear eye protection.

HAND PROTECTION: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 240 minutes (protection class 5 or greater) are recommended. For brief contact or splash applications, gloves with breakthrough times of 10 minutes or greater are recommended (protection class 1 or greater). The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN374. Suitability and durability of a glove is dependent on usage (e.g. frequency and

duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to most suitable glove material.

SKIN AND BODY PROTECTION: Use good laboratory/workplace procedures including personal protective clothing: Labcoat, safety glasses and protective gloves.

RESPIRATORY PROTECTION: Wear an approved respirator (e.g., an organic respirator, a full-face air purifying respirator for organic vapours. Or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume or vapour, exceed the applicable exposure limit(s) of any chemical substance listed in this SDS.

FURTHER INFORMATION: Eyewash fountains and safety showers are recommended in the work area.

ENVIRONMENTAL EXPOSURE CONTROLS See Sections 6 and 12.

9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form:	Liquid
Appearance	Colourless
Odour:	Aromatic
Odour Threshold:	Not available
Solubility in Water	Slight
Evaporation Rate:	<1
Vapour Pressure:	<1 mm Hg @ 20°C
Vapour Density:	7.3 (Air=1)
Viscosity	Not Available
Melting Point/Freezing point:	18-21°C (64-70 °F)
pH:	Not available
Relative Density:	1.116-1.120
Partition coefficient (n- octanol/water):	3,97
% Volatile by weight:	<15%
VOC	<15% ASTM D2369
Boiling Point °C	323 °C
Boiling Point °F	614 °F
Flash Point:	148 °C (298 °F) Tag Closed
Flammability (solid gas)	Not Applicable (liquid)
Oxidising properties	Not Oxidizing
Explosive properties	Not explosive
Decomposition temperature	Not available
Flammability or explosive limits	LFL/LEL Not Available UFL/UEL Not Available

OTHER INFORMATION

Amounts specified are typical and do not represent a specification.

10 STABILITY AND REACTIVITY

REACTIVITY

None known

CHEMICAL STABILITY

The product is stable

POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous polymerization will not occur

CONDITIONS TO AVOID

Excessive heat and ignition sources.

INCOMPATIBLE MATERIALS

Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon dioxide and carbon monoxide.

11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS**Information on likely routes of exposure**

General Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure

Eyes may cause eye irritation

Skin May be harmful in contact with skin. May cause skin irritation. Repeated or prolonged contact may cause skin irritation and dermatitis.

Inhalation. inhalation may cause irritation of the respiratory tract and mucous membranes

Ingestion. Harmful if swallowed. Ingestion may cause nausea, vomiting and diarrhea.

Acute toxicity information: Harmful if swallowed – Category 4.

<u>Chemical Name</u>	<u>Inhalation LC50</u>	<u>Species</u>	<u>Oral LD50</u>	<u>Species</u>	<u>Dermal LD50</u>	<u>Species</u>
Benzyl benzoate	>5.57 mg/L 4 hours Similar materials)	Rat/adult	1100-1980mg/kg	rat/adult	4400mg/kg	Rabbit/adult

Skin corrosion/irritation Not classified (based on available data the classification criteria are not met).

<u>Chemical Name</u>	<u>Skin irritation</u>	<u>Species</u>
Benzyl benzoate	Slight irritation	Rabbit/adult

Serious eye damage/irritation Not classified (based on available data the classification criteria are not met).

<u>Chemical Name</u>	<u>Eye irritation</u>	<u>Species</u>
Benzyl benzoate	N/E	N/E

Respiratory or skin sensitization Not classified (based on available data the classification criteria are not met).

<u>Chemical Name</u>	<u>Skin sensitisation</u>	<u>Species</u>
Benzyl benzoate	Non- Sensitizer	Guinea Pig/ adult

Carcinogenicity: Not classified (based on available data the classification criteria are not met).

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met).

Reproductive toxicity Not classified

Specific target organ toxicity (STOT) -single exposure: Not classified (based on available data the classification criteria are not met).

Specific target organ toxicity (STOT) – repeated exposure: Not classified (based on available data the classification criteria are not met). BENZYL BENZOATE: in animals, overexposure has been reported to cause progressive incoordination, central nervous system excitation, convulsions and death.

Aspiration hazard Not classified (based on available data the classification criteria are not met).

Other toxicity information No additional information available

12 ECOLOGICAL INFORMATION

TOXICITY

<u>Chemical Name</u>	<u>Fish 96 Hour LC50</u>	<u>Fish 96 Hour LC50</u>	<u>Fish Chronic NOEC</u>
Benzyl benzoate	2.3-3.9 mg/L	1.34mg/L	N/E
<u>Chemical Name</u>	<u>Invertebrates 48 hour EC50</u>	<u>Invertebrates 24 hour EC50</u>	<u>Invertebrates Chronic NOEC</u>
Benzyl benzoate	3.09mg/L	N/E	N/E
<u>Chemical Name</u>	<u>Algae 96 hour EC50</u>	<u>Algae 72 hour EC50</u>	<u>Algae Chronic NOEC</u>
Benzyl benzoate	N/E	N/E	N/E

PERSISTENCE AND DEGRADABILITY

<u>Chemical Name</u>	<u>Biodegradation</u>
Benzyl benzoate	Readily biodegradable

BIOACCUMULATIVE POTENTIAL

<u>Chemical Name</u>	<u>Bioconcentration Factor (BCF)</u>	<u>LogKow</u>
Benzyl benzoate	N/E	3.97

MOBILITY IN SOIL

<u>Chemical Name</u>	<u>Mobility in soil (Koc/Kow)</u>
Benzyl benzoate	N/E

RESULTS OF PBT AND VPVB ASSESSMENT

Not Available

OTHER ADVERSE EFFECTS

No additional information available.

13 DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

14 TRANSPORT INFORMATION

The information below is provided to assist in documentation. It may supplement the information on the package the package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packing instructions, it may be subject to specific regulatory exceptions.

UN Number:	UN 3082
Proper Shipping Name:	Environmentally Hazardous Substance, Liquid, N, O, S (Benzyl benzoate)
Transport hazard Class(es)	U. S DOT hazard class N/A
Canada TDG hazard class	N/A
Europe ADR/RID hazard class	9
IMDG Code (ocean) hazard class	9
ICAO/IATA (air) hazard class	9
Packing Group:	III
Environmentally Hazard	
Marine pollutant	Marine pollutant (IMDG code 2.9.3).
Hazardous substance (USA)	Not Applicable
Special Precautions for user:	Not Applicable

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not Applicable

Notes For surface shipments within the United States: Not regulated

15 REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Europe REACH (EC) 1907/2006 Applicable components are pre-registered, exempt or otherwise compliant. REACH is only relevant to substances either manufactured or imported into the EU. Emerald performance Materials has met its obligations under the REACH regulation. REACH information regarding this product is provided for information purposes only. Each Legal Entity may have different REACH obligations, depending on their place in the supply chain. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

EU Authorization and/or restrictions on use Not Applicable

Other EU information No Additional Information

National Regulations No Additional Information

Chemical Inventories

<u>Regulation</u>	<u>Status</u>
Australian Inventory of Chemical Substances (AICS)	Y
Canadian Domestic Substances list (DSL)	Y
Canadian Non-Domestic Substances list (NDSL)	N
China Inventory of existing Chemical Substances (IECSC)	Y
European Inventory of Chemical Substances (EINECS)	Y
European LIST OF Notified Chemical Substances (EINECS)	N
Japan Existing and New Chemical Substances (ENCS)	Y
Japan Industrial Safety and Health Law (ISHL)	Y
Korean Existing and Evaluated Chemical Substances (KECL)	Y
New Zealand Inventory of chemicals (NZIOC)	Y
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Y

Taiwan Inventory of Existing Chemicals	Y
U.S Toxic Substances Control Act(TSCA)	Y

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that one or more components 1) there is no listing on the public inventory 2) no information is available or 3) the components has not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

CHEMICAL SAFETY ASSESSMENT

Not Applicable

16 OTHER INFORMATION

Hazard (H)-Statements in the Composition section (Section 3)

H302	Harmful if swallowed
H411	Toxic to aquatic life with long lasting effects

Reason for revision Changes in Section (s) 1

Evaluation method for classification of mixtures Not Applicable (Substance)

Legend

ACGIH American Conference of Governmental Industrial Hygienists

EU OELV European Union Occupational Exposure Limit Value

EU IOELV European Union Occupational Exposure Limit Value

N/A Not Applicable

N/E None Established

STEL Short Term Exposure Limit

TWA Time Weighted Average (exposure for 8-hour workday)

DISCLAIMER

The foregoing data has been compiled for safety information only and does not form part of any selling specification. Information contained in this SDS is to the best of JML's knowledge correct at the time of publication. However, no guarantee is given to its accuracy, reliability or completeness and the information may not be valid if the product is used in combination with other materials or process. It is the responsibility of the user to ensure that the product which they have selected is entirely suitable for their purpose under their conditions of use and in compliance with current regulatory requirements.