

OSHA Material Safety Data Sheet

Product: **Mulberry**

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1. Chemical Product and Company Identification

Product Name: Mulberry

Emergency Telephone Number(s):
(800) 255-3924 Domestic USA, Canada, Puerto Rico, and US Virgin Islands
(813) 248-0585 International

2. Hazards Identification

This mixture has not been tested as a whole. The effects, listed below, are based on evaluation of individual components in accordance with the provisions of 1910.1200 of title 29 of the U.S. Code of Federal Regulations.

Emergency Overview of OSHA Hazards

Flammability	Class IIIA Combustible Liquid
Acute Dermal/Eye	16 Causes eye irritation.
	12 Causes moderate skin irritation.
	10 May be harmful if absorbed through the skin.
Acute Inhalation	25 Inhalation at high levels may cause: difficulty in breathing.
	23 May cause respiratory tract irritation.
Acute Oral	3 May be harmful if swallowed or if aspirated into the lungs
Genotoxicity	36 Suspected of causing genetic defects
Reproductive/Developmental	39 Causes reproductive/developmental toxicity in animals.
Sensitization/Allergic Response	31 May cause allergic skin reaction.
Target Organ Effects	28 Prolonged or repeated Dermal Exposure may cause damage to: kidneys, skin
	26 Prolonged or repeated ingestion may cause damage to: kidneys, liver, thymus gland, stomach, testes, brain, nasal cavity.

Carcinogenicity: This mixture contains ingredients identified as carcinogens, at 0.1% or greater, by the following :
None ACGIH IARC NTP OSHA

3. Composition/Information on Ingredients

Chemical Identification: Perfumery Compound (Mixture)
INCI Name: Fragrance

Fragrance Compound: a multi component mixture of fragrance ingredients. The specific chemical identities of the ingredients not listed herein are considered by Just Scent to be Trade Secrets and are withheld in accordance with the provisions of 1910.1200 of title 29 of the U.S. Code of Federal Regulations.

This product is a complex mixture of fragrance ingredients, which contains among others the following substance(s), presenting a health or environmental hazard within the meaning of OSHA Hazard Communication Standard 29CFR1910.1200 (HCS), or having an occupational Exposure Limit:

CAS#	Ingredient(s)	Risk Codes
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3. Composition/Information on Ingredients

100-52-7	Benzaldehyde	3, 10, 11, 15, 23, 25, 26, 31, 36, 39
104-21-2	p-Anisyl acetate	12, 15
104-55-2	Cinnamal	10, 12, 16, 26, 31, 36
120-51-4	Benzyl Benzoate	3, 28
2705-87-5	Allyl cyclohexylpropionate	3, 10, 12, 15
8008-57-9	Citrus aurantium dulcis (Orange) oil	3, 12, 31

Total Hydrocarbon Content (% w/w) = 14.53

4. First Aid Measures

Inhalation:	Remove from exposure site to fresh air and keep at rest. Obtain medical advice.
Eye Exposure:	Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.
Skin Exposure:	Remove contaminated clothes. Wash thoroughly with water (and soap). Contact physician if symptoms persist.
Ingestion:	Rinse mouth with water and obtain medical advice.
Others:	Take risk and safety phrases (section 15) into account.

5. Fire-Fighting measures

Flash Point	154 F (67.78 C)
Flammability	Class IIIA Combustible Liquid
Extinguishing Media:	Carbon dioxide, dry chemical, foam. Do not use a direct water jet on burning material.
Special Fire Fighting Procedures	Wear NIOSH approved self-contained breathing apparatus and full protective clothing when fighting fires involving chemicals. Use water spray to cool containers exposed to fire.

Unusual Fire and

Explosion Hazards None Known to Agilex Flavors & Fragrances™ Inc.

6. Accidental Release Measures

Personal precautions:	Avoid inhalation and contact with skin and eyes. A self-contained breathing apparatus is recommended in case of a major spill.
Spillage:	Clean up spillage promptly. Remove ignition sources. Provide adequate ventilation. Avoid excessive inhalation of vapors. Gross spillages should be contained by use of sand or inert powder and disposed of according to the local regulations.
Environmental Precautions:	Keep away from drains, soil, and surface and groundwater.

7. Handling and Storage

Handling:	Apply according to good manufacturing and industrial hygiene practices with proper ventilation. Do not drink, eat or smoke while handling. Respect good personal hygiene.
Storage:	Store in a cool, dry and ventilated area away from heat sources and protected from light in tightly closed original container. Avoid plastic and uncoated metal container. Keep air contact to a minimum.
Fire protection:	Keep away from ignition sources and naked flame.

8. Exposure Controls/Personal Protection

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8. Exposure Controls/Personal Protection

ENGINEERING MEASURES

Closed Systems: Wherever possible, use closed systems to transfer fragrances.
Isolation: If appropriate, isolate mixing rooms and other areas where fragrances are openly handled and maintain these areas under negative air pressure relative to the rest of the plant.
Ventilation: Use local exhaust ventilation meeting ACGIH design criteria around tanks and other sources of potential exposures, including places where fragrances are openly weighed or measured, as well as general dilution ventilation of the work area to eliminate or reduce possible worker exposures.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Avoid excessive inhalation of concentrated vapors. Apply local ventilation where appropriate.
Eye Protection: Use goggles.
Skin Protection: Avoid Skin contact. Use chemically resistant gloves as needed.

9. Physical and Chemical Properties

Appearance:	Conforms to Standard	Odor:	Conforms to Standard
Color:	Conforms to Standard	Viscosity:	Liquid
Freezing Point:	Not determined	Boiling Point:	Not determined
Melting Point:	Not determined	Flashpoint:	154 F (67.78 C)
Auto flammability:	Not determined	Explosive Properties:	None Expected
Oxidizing properties:	None Expected	Vapor Pressure (mmHg@20 C):	0.3902
%VOC:	22.37	Specific Gravity @ 25 C:	
Density @ 25 C:		Refractive Index @ 25 C:	
Soluble in:	Oil		

10. Stability and Reactivity

Reactivity: Presents no significant reactivity hazard, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidizing agents.
Incompatibility: Avoid contact with strong acids, alkali or oxidizing agents.
Decomposition: Carbon monoxide and unidentified organic compounds may be formed during combustion.

11. Toxicological Information

Based on the ingredients in this mixture and their concentrations in accordance with the provisions of 1910.1200 of title 29 of the U.S. Code of Federal Regulations:

Acute Oral Toxicity (Rat) Overall (Calculated Estimate) LD50: 1732.60 mg/Kg

3	May be harmful if swallowed or if aspirated into the lungs	
100-52-7	Benzaldehyde	(LD50 = >1430 mg/Kg)
120-51-4	Benzyl Benzoate	(LD50 = 1500 mg/Kg)
2705-87-5	Allyl cyclohexylpropionate	(LD50 = 480 mg/Kg)
8008-57-9	Citrus aurantium dulcis (Orange) oil	(LD50 = >5000 mg/Kg)

Acute Dermal Toxicity (Rabbit) Overall (Calculated Estimate) LD50: 3288.19 mg/Kg

10	May be harmful if absorbed through the skin.	
100-52-7	Benzaldehyde	(LD50 = >2500 mg/Kg)
104-55-2	Cinnamal	(LD50 = 1100 mg/Kg)
2705-87-5	Allyl cyclohexylpropionate	(LD50 = 1600 mg/Kg)

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11. Toxicological Information

Acute Inhalation Toxicity (Rat) Overall (Calculated Estimate) LC50: 37.24 mg/Kg

- | | | | |
|----|---|--------------|-----------------------|
| 25 | Inhalation at high levels may cause: difficulty in breathing. | | |
| | 100-52-7 | Benzaldehyde | (LC50 = >10 mg/L/4hr) |
| 23 | May cause respiratory tract irritation. | | |
| | 100-52-7 | Benzaldehyde | (LC50 = >10 mg/L/4hr) |

Skin irritation

- | | | | |
|----|----------------------------------|--------------------------------------|--|
| 12 | Causes moderate skin irritation. | | |
| | 104-21-2 | p-Anisyl acetate | |
| | 104-55-2 | Cinnamal | |
| | 2705-87-5 | Allyl cyclohexylpropionate | |
| | 8008-57-9 | Citrus aurantium dulcis (Orange) oil | |

Eye irritation

- | | | | |
|----|------------------------|----------|--|
| 16 | Causes eye irritation. | | |
| | 104-55-2 | Cinnamal | |

Sensitization & Allergic Reactions

- | | | | |
|----|-----------------------------------|--------------------------------------|--|
| 31 | May cause allergic skin reaction. | | |
| | 100-52-7 | Benzaldehyde | |
| | 104-55-2 | Cinnamal | |
| | 8008-57-9 | Citrus aurantium dulcis (Orange) oil | |

Carcinogenicity or Tumorigenicity

None

Genotoxicity

- | | | | |
|----|--------------------------------------|--------------|--|
| 36 | Suspected of causing genetic defects | | |
| | 100-52-7 | Benzaldehyde | |
| | 104-55-2 | Cinnamal | |

Reproductive/Developmental

- | | | | |
|----|--|--------------|--|
| 39 | Causes reproductive/developmental toxicity in animals. | | |
| | 100-52-7 | Benzaldehyde | |

Target Organ Effects

- | | | | |
|----|--|-----------------|---|
| 28 | Prolonged or repeated Dermal Exposure may cause damage to: kidneys, skin | | |
| | 120-51-4 | Benzyl Benzoate | kidneys, skin |
| 26 | Prolonged or repeated ingestion may cause damage to: kidneys, liver, thymus gland, stomach, testes, brain, nasal cavity. | | |
| | 100-52-7 | Benzaldehyde | kidneys, liver, thymus gland, testes, brain |
| | 104-55-2 | Cinnamal | stomach, nasal cavity |

12. Ecological Information

Avoid contamination of soil, ground and surface water. While no specific environmental toxicity or related data is available, fragrance compositions are not expected to accumulate in the environment and environmental problems are not expected under normal conditions of use.

13. Disposal Conditions

Dispose of according to local regulations. Avoid disposing into drainage systems and into the environment.

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14. Transport Information

Regulator	Class	Pack Group	Sub Risk	UN-nr.
U.S. DOT (Non-Bulk) Chemicals NOI	Not Regulated - Not Dangerous Goods			
ADR/RID (International Road/Rail) Environmentally Hazardous Substance, Liquid, n.o.s.	9	III		UN3082
IATA (Air Cargo) Environmentally Hazardous Substance, Liquid, n.o.s.	9	III		UN3082
IMDG (Sea) Environmentally Hazardous Substance, Liquid, n.o.s.	9	III		UN3082

Ingredient of greatest environmental impact: *** Undetermined ***

15. Regulatory Information

The components of this fragrance product are in compliance, either listed or exempt, with the U.S. EPA Toxic Substances Control Act (TSCA) Inventory of Chemical Substances: Yes

100.00% of the components of this fragrance product are found on the Canadian DSL.

The following ingredient(s) are NOT found on the DSL, status as noted:

<u>Status</u>	<u>Chemical Class</u>	<u>CAS#</u>	<u>Concentration (% by wt)</u>
	NONE		

United States Code of Federal Regulations 40 CFR (EPCRA, SARA, CERCLA and CAA)

This proprietary mixture contains the following chemicals subject to reporting requirements under the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and chemicals listed under section 112(r) of the Clean Air Act (CAA).

<u>Chemical Class</u>	<u>CAS#</u>	<u>Concentration (% by wt)</u>
NONE		

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains the following chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm (NFS = In accordance with Title 22, California Code of Regulations, Division 2, Part 2, Subdivision 1, Chapter 3, subsection (b) of Section 12501, this material is exempt from reporting as a naturally occurring chemical from a food source):

<u>Chemical Class</u>	<u>CAS#</u>	<u>Concentration (% by wt)</u>
NONE		

16. Other Information

Disclaimer

The information in this MSDS pertains only to the material referred to in Section I. Any modification to the fragrance or use of the fragrance in a product application requires a new MSDS for the finished product, which is the responsibility of the user to obtain and produce its own.

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16. Other Information

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warrant, expressed or implied, regarding its correctness or accuracy. Since the use, handling, storage and disposal of this product are beyond Just Scent control, it is the responsibility of the user both to determine safe conditions for the use of this product and to assume liability of loss, damage, or expense arising out of the product's improper use. No warranty expressed or implied regarding the product described herein shall be created by or inferred from any statement or mission in this MSDS. Various Federal, State or Provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product, which may not be reflected in this MSDS. The user should review these regulations to ensure full compliance.