

SAFETY DATA SHEET

In accordance with REACH Regulation EC No.1907/2006

Product: Blueberry Concentrate 232W42

Version: 3

Section 1. Identification of the substance or the mixture and of the supplier

1.1 Product Identifier

Product identifier: Blueberry Concentrate 232W42(Contains:Acetic acid, Ethyl isovalerate, Furfural, Linalool, Linalyl acetate)

Other identifiers: None

1.2 Relevant identified uses of the substance of mixture and uses advised against

Product uses: Flavours

1.3 Details of the supplier of the safety data sheet

Company name: Perfumer's Apprentice

Company address: 170 Technology Circle
Scotts Valley
CA 95066
USA

Contact: Elisabeth Hanson

E-Mail address: regulatory@perfumersapprentice.com

Company phone: (831)316-7137

1.4 Emergency telephone number

Emergency phone: ChemTel:1(800)255-3924, 01(813)248-0585 MIS6760377

Section 2. Hazards identification

2.1 Classification of the substance or mixture

Classification under Regulation (EC) No 1272/2008

Class and category of danger: Flammable Liquid, Hazard Category 3
Skin Corrosion / Irritation Category 2
Eye Damage / Irritation Category 1
Sensitization - Skin Category 1
Carcinogenicity Category 2
Hazardous to the Aquatic Environment - Long-term Hazard Category 3
H226, Flammable liquid and vapour.
H315, Causes skin irritation.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H351, Suspected of causing cancer (exposure route).
H412, Harmful to aquatic life with long lasting effects.

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2.2 Label elements

Classification under Regulation (EC) No 1272/2008

Signal word: Danger

Hazard statements: H226, Flammable liquid and vapour.
H315, Causes skin irritation.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H351, Suspected of causing cancer (exposure route).
H412, Harmful to aquatic life with long lasting effects.

Supplemental Information: EUH208, Contains Geraniol, Geranyl acetate, d-Limonene. May produce an allergic reaction.

Precautionary statements: P210, Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P233, Keep container tightly closed.
P240, Ground/bond container and receiving equipment.
P241, Use explosion-proof electrical, ventilating and lighting equipment.
P242, Use only non-sparking tools.
P243, Take precautionary measures against static discharge.
P261, Avoid breathing vapour or dust.
P264, Wash hands and other contacted skin thoroughly after handling.
P272, Contaminated work clothing should not be allowed out of the workplace.
P273, Avoid release to the environment.
P280, Wear protective gloves/eye protection/face protection.
P303/361/353, IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305/351/338, IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308/313, IF exposed or concerned: Get medical advice/attention.
P310, Immediately call a POISON CENTER or doctor/physician.
P333/313, If skin irritation or rash occurs: Get medical advice/attention.
P362, Take off contaminated clothing and wash before reuse.
P370/378, In case of fire: Use carbon dioxide, dry chemical, foam for extinction.
P403/235, Store in a well-ventilated place. Keep cool.
P405, Store locked up.
P501, Dispose of contents/container to approved disposal site, in accordance with local regulations.
P202, Do not handle until all safety precautions have been read and understood.

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Pictograms:



2.3 Other hazards

Other hazards: None

Section 3. Composition / information on ingredients

3.2 Mixtures

Contains:

Name	CAS	EC	REACH Registration No.	%	Classification for (CLP) 1272/2008
Ethyl isovalerate	108-64-5	203-602-3		30-40%	Flam. Liq. 3-Skin Irrit. 2;H226-H315,-
Linalool	78-70-6	201-134-4		10-20%	Skin Irrit. 2-Eye Irrit. 2; H315-H319,-
Acetic acid	64-19-7	200-580-7		1-5%	Flam. Liq. 3-Skin Corr. 1A-Eye Dam. 1;H226-H314,-
Benzaldehyde	100-52-7	202-860-4		1-5%	Acute Tox. 4-Acute Tox. 4-Eye Irrit. 2-STOT SE 3;H302-H319-H332-H335,-
Ethyl acetate	141-78-6	205-500-4		1-5%	Flam. Liq. 2-Eye Irrit. 2-STOT SE 3;H225-H319-H336,EUH066
Furfural	98-01-1	202-627-7		1-5%	Acute Tox. 3-Acute Tox. 4-Acute Tox. 2-Skin Irrit. 2-Eye Irrit. 2-Carc. 2-STOT SE 3; H301-H312-H315-H319-H330-H335-H351,-
Linalyl acetate	115-95-7	204-116-4		1-5%	Skin Irrit. 2-Eye Irrit. 2-Skin Sens. 1;H315-H317-H319,-
Geraniol	106-24-1	203-377-1		<1%	Skin Irrit. 2-Eye Dam. 1-Eye Irrit. 2-Skin Sens. 1;H315-H317-H318-H319,-
Geranyl acetate	105-87-3	203-341-5		<1%	Skin Irrit. 2-Skin Sens. 1B-Aquatic Chronic 2; H315-H317-H411,-
d-Limonene	5989-27-5	227-813-5		<1%	Flam. Liq. 3-Skin Irrit. 2-Skin Sens. 1B-Asp. Tox 1-Aquatic Acute 1-Aquatic Chronic 1; H226-H304-H315-H317-H410,-

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Substances with Community workplace exposure limits:

Name	CAS	EC	REACH Registration No.	%	Classification for (CLP) 1272/2008
Ethyl acetate	141-78-6	205-500-4		1-5%	Flam. Liq. 2-Eye Irrit. 2-STOT SE 3;H225-H319-H336,EUH066
Furfural	98-01-1	202-627-7		1-5%	Acute Tox. 3-Acute Tox. 4-Acute Tox. 2-Skin Irrit. 2-Eye Irrit. 2-Carc. 2-STOT SE 3; H301-H312-H315-H319-H330-H335-H351,-

Substances that are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative, greater than 0.1%:

Not Applicable

Section 4. First-aid measures

4.1 Description of first aid measures

Inhalation: Remove from exposure site to fresh air, keep at rest, and obtain medical attention.

Eye exposure: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin exposure: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Ingestion: Rinse mouth with water and obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of causing cancer (exposure route).

4.3 Indication of any immediate medical attention and special treatment needed

None expected, see Section 4.1 for further information.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable media: Carbon dioxide, Dry chemical, Foam.

5.2 Special hazards arising from the substance or mixture

In case of fire, may be liberated: Carbon monoxide, Unidentified organic compounds.

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5.3 Advice for fire fighters:

In case of insufficient ventilation, wear suitable respiratory equipment.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid inhalation. Avoid contact with skin and eyes. See protective measures under Section 7 and 8.

6.2 Environmental precautions:

Keep away from drains, surface and ground water, and soil.

6.3 Methods and material for containment and cleaning up:

Remove ignition sources. Provide adequate ventilation. Avoid excessive inhalation of vapours. Contain spillage immediately by use of sand or inert powder. Dispose of according to local regulations.

6.4 Reference to other sections:

Also refer to sections 8 and 13.

Section 7. Handling and storage

7.1 Precautions for safe handling:

Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

7.2 Conditions for safe storage, including any incompatibilities:

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

7.3 Specific end use(s):

Flavours: Use in accordance with good manufacturing and industrial hygiene practices.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits:

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Ingredient	CAS	EC	Description	Value
Ethyl acetate	141-78-6	205-500-4	UK WEL Long term ppm	200
			UK WEL Short term ppm	400
Furfural	98-01-1	202-627-7	UK WEL Long term mgm3	8
			UK WEL Long term ppm	2
			UK WEL Short term mgm3	20
			UK WEL Short term ppm	5

8.2 Exposure Controls

Eye / Skin Protection

Wear protective gloves/eye protection/face protection

Respiratory Protection

Ensure adequate and ongoing ventilation is maintained in order to prevent build up of excessive vapour and to ensure occupational exposure limits are adhered to. If appropriate, and depending on your patterns and volumes of use, the following engineering controls may be required as additional protective measures: a) Isolate mixing rooms and other areas where this material is used or openly handled. Maintain these areas under negative air pressure relative to the rest of the plant. b) Employ the use of Personal protective equipment - an approved, properly fitted respirator with organic vapour cartridges or canisters and particulate filters. c) Use local exhaust ventilation around open tanks and other open sources of potential exposures in order to avoid excessive inhalation, including places where this material is openly weighed or measured. In addition, use general dilution ventilation of the work area to eliminate or reduce possible worker exposures. d) Use closed systems for transferring and processing this material.

Also refer to Sections 2 and 7.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Not determined
Odour:	Not determined
Odour threshold:	Not determined
pH:	Not determined
Melting point / freezing point:	Not determined
Initial boiling point / range:	Not determined
Flash point:	28.33 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Upper/lower flammability or explosive limits:	Product does not present an explosion hazard

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Vapour pressure:	Not determined
Vapour density:	Not determined
Relative density:	0.8820
Solubility(ies):	Not determined
Partition coefficient: n-octanol/water:	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Not expected
Oxidising properties:	Not expected

9.2 Other information: None available

Section 10. Stability and reactivity

10.1 Reactivity:

Presents no significant reactivity hazard, by itself or in contact with water.

10.2 Chemical stability:

Good stability under normal storage conditions.

10.3 Possibility of hazardous reactions:

Not expected under normal conditions of use.

10.4 Conditions to avoid:

Avoid extreme heat.

10.5 Incompatible materials:

Avoid contact with strong acids, alkalis or oxidising agents.

10.6 Hazardous decomposition products:

Not expected.

Section 11. Toxicological information

11.1 Information on toxicological effects

This mixture has not been tested as a whole for health effects. The health effects have been calculated using the methods outlined in Regulation (EC) No 1272/2008 (CLP).

Acute Toxicity:	Based on available data the classification criteria are not met.
Acute Toxicity Oral	2074
Acute Toxicity Dermal	>5000
Acute Toxicity Inhalation	Not Available
Skin corrosion/irritation:	Skin Corrosion / Irritation Category 2
Serious eye damage/irritation:	Eye Damage / Irritation Category 1
Respiratory or skin sensitisation:	Sensitization - Skin Category 1

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Germ cell mutagenicity: Based on available data the classification criteria are not met.
Carcinogenicity: Carcinogenicity Category 2
Reproductive toxicity: Based on available data the classification criteria are not met.
STOT-single exposure: Based on available data the classification criteria are not met.
STOT-repeated exposure: Based on available data the classification criteria are not met.
Aspiration hazard: Based on available data the classification criteria are not met.

Information about hazardous ingredients in the mixture

Ingredient	CAS	EC	LD50/ATE Oral	LD50/ATE Dermal	LC50/ATE Inhalation	LC50 Route
Benzaldehyde	100-52-7	202-860-4	1430	Not available	1.5	Dust/mist
Furfural	98-01-1	202-627-7	100	1100	1	Vapour

Refer to Sections 2 and 3 for additional information.

Section 12. Ecological information

12.1 Toxicity:

Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability: Not available

12.3 Bioaccumulative potential: Not available

12.4 Mobility in soil: Not available

12.5 Results of PBT and vPvB assessment:

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects: Not available

Section 13. Disposal considerations

13.1 Waste treatment methods:

Dispose of in accordance with local regulations. Avoid disposing into drainage systems and into the environment. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14. Transport information

DOT

14.1 UN number: UN1197
14.2 UN Proper Shipping Name: EXTRACTS, FLAVOURING, LIQUID
14.3 Transport hazard class(es): 3
14.4. Packing Group: III

ICAO/IATA

14.1 UN number: UN1992
14.2 UN Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, N.O.S (ETHYL ACETATE, FURFURAL)
14.3 Transport hazard class(es): 3
Sub Risk: 6.1
14.4. Packing Group: III

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Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

None additional

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this product.

Section 16. Other information

Concentration % Limits: EH C3=73.53% SCI 2=16.10% EDI 1=75.00% EDI 2=24.80% SS 1=25.00% CAR 2=25.00%

Total Fractional Values: EH C3=1.36 SCI 2=6.21 EDI 1=1.33 EDI 2=4.03 SS 1=4.00 CAR 2=4.00

Key to revisions:

Concentration % Limits

Product identifier

SECTION 3: Composition/information on ingredients

Total Fractional Values

Key to abbreviations:

Abbreviation	Meaning
Acute Tox. 2	Acute Toxicity - Inhalation Category 2
Acute Tox. 3	Acute Toxicity - Oral Category 3
Acute Tox. 4	Acute Toxicity - Oral Category 4
Acute Tox. 4	Acute Toxicity - Inhalation Category 4
Acute Tox. 4	Acute Toxicity - Dermal Category 4
Aquatic Acute 1	Hazardous to the Aquatic Environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the Aquatic Environment - Long-term Hazard Category 1
Aquatic Chronic 2	Hazardous to the Aquatic Environment - Long-term Hazard Category 2
Asp. Tox 1	Aspiration Hazard Category 1
Carc. 2	Carcinogenicity Category 2
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Dam. 1	Eye Damage / Irritation Category 1
Eye Irrit. 2	Eye Damage / Irritation Category 2
Flam. Liq. 2	Flammable Liquid, Hazard Category 2
Flam. Liq. 3	Flammable Liquid, Hazard Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.

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H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer (exposure route).
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe vapour or dust.
P261	Avoid breathing vapour or dust.
P264	Wash hands and other contacted skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P284	Wear respiratory protection.
P301/310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301/312	IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.
P301/330/331	If swallowed: Rinse mouth. Do not induce vomiting.
P302/352	IF ON SKIN: Wash with plenty of soap and water.
P303/361/353	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304/340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308/313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P330	Rinse mouth.

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P331	Do not induce vomiting.
P332/313	If skin irritation occurs: Get medical advice/attention.
P333/313	If skin irritation or rash occurs: Get medical advice/attention.
P337/313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P363	Wash contaminated clothing before reuse.
P370/378	In case of fire: Use carbon dioxide, dry chemical, foam for extinction.
P391	Collect spillage.
P403/233/235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P403/235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to approved disposal site, in accordance with local regulations.
STOT SE 3	Specific Target Organ Toxicity (Single Exposure) Category 3
STOT SE 3	Specific Target Organ Toxicity (Single Exposure) Category 3
Skin Corr. 1A	Skin Corrosion / Irritation Category 1A
Skin Irrit. 2	Skin Corrosion / Irritation Category 2
Skin Sens. 1	Sensitization - Skin Category 1
Skin Sens. 1B	Sensitization - Skin Category 1B

The information in this safety data sheet is to the best of our knowledge true and accurate but all data, instructions, recommendations and/or suggestions are made without guarantee.