

SAFETY DATA SHEET

In accordance with REACH Regulation EC No.1907/2006

Product: Mixed Berry Natural Concentrate** 22249

Version: 1

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

1.1 Product Identifier

Product identifier: Mixed Berry Natural Concentrate** 22249(Contains:2-Methylbutyric acid, Acetic acid, Furfural, Hexanoic acid)

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
Acute Toxicity - Oral Category 4
Skin Corrosion / Irritation Category 1B
Eye Damage / Irritation Category 1
Specific Target Organ Toxicity (Single Exposure) Category 3
Hazardous to the Aquatic Environment - Long-term Hazard Category 3
H226, Flammable liquid and vapour.
H302, Harmful if swallowed.
H314, Causes severe skin burns and eye damage.
H335, May cause respiratory irritation.
H412, Harmful to aquatic life with long lasting effects.

2.2 Label elements

Signal word: Danger

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Hazard statements: H226, Flammable liquid and vapour.
H302, Harmful if swallowed.
H314, Causes severe skin burns and eye damage.
H335, May cause respiratory irritation.
H412, Harmful to aquatic life with long lasting effects.

Supplemental Information: None

Precautionary statements: P210, Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
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.
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.
P273, Avoid release to the environment.
P280, Wear protective gloves/eye protection/face protection.
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.
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.
P310, Immediately call a POISON CENTER or doctor/physician.
P330, Rinse mouth.
P363, Wash contaminated clothing before reuse.
P370/378, In case of fire: Use carbon dioxide, dry chemical, foam for extinction.
P403/233/235, Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405, Store locked up.
P501, Dispose of contents/container to approved disposal site, in accordance with local regulations.

Pictograms:



Other hazards: None

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Section 3. Composition / information on ingredients

3.2 Mixtures

Contains:

Name	CAS	EC	REACH Registration No.	%	Classification for (CLP) 1272/2008
Benzyl alcohol	100-51-6	202-859-9		10-20%	ATO 4-ATI 4-EDI 2; H302-H319-H332,-
2-Methylbutyric acid	116-53-0	204-145-2		5-10%	ATO 4-ATD 4-SCI 1B-EDI 1;H302-H312-H314,-
Acetic acid	64-19-7	200-580-7		5-10%	FL 3-SCI 1A-EDI 1; H226-H314,-
Butyric acid	107-92-6	203-532-3		5-10%	ATO 4-SCI 1B-EDI 1; H302-H314,-
Ethyl acetate	141-78-6	205-500-4		5-10%	FL 2-EDI 2-STO-SE 3 (NE);H225-H319-H336, EUH066
Hexanoic acid	142-62-1	205-550-7		5-10%	SCI 1C-EDI 1;H314,-
cis-3-Hexenol	928-96-1	213-192-8		5-10%	FL 3-EDI 2;H226-H319,-
4-(p-Hydroxyphenyl)-2-butanone	5471-51-2	226-806-4		1-5%	ATO 4;H302,-
Benzaldehyde	100-52-7	202-860-4		1-5%	ATO 4-ATI 4-EDI 2-STO-SE 3(RI);H302-H319-H332-H335,-
Vanillin	121-33-5	204-465-2		1-5%	EDI 2;H319,-
Ethyl isovalerate	108-64-5	203-602-3		1-5%	FL 3-SCI 2;H226-H315,-
Furfural	98-01-1	202-627-7		1-5%	ATO 3-ATD 4-ATI 2-SCI 2-EDI 2-CAR 2-STO-SE 3(RI);H301-H312-H315-H319-H330-H335-H351,-
Isoamyl isovalerate	659-70-1	211-536-1		1-5%	EH C2;H411,-
Isoamyl alcohol	123-51-3	204-633-5		1-5%	FL 3-ATI 4-SCI 2-EDI 2-STO-SE 3(RI);H226-H315-H319-H332-H335,EUH066

Substances with Community workplace exposure limits:

Name	CAS	EC	%
Ethyl acetate	141-78-6	205-500-4	5-10%
Furfural	98-01-1	202-627-7	1-5%
Isoamyl alcohol	123-51-3	204-633-5	1-5%

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

Not Applicable

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Section 4. First-aid measures

4.1 Description of first aid measures

IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.

If swallowed: Rinse mouth. Do not induce vomiting.

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

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause respiratory irritation.

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.

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.

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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. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a well-ventilated place. Keep container tightly closed. Keep cool. 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
Isoamyl alcohol	123-51-3	204-633-5	UK WEL Long term mgm3	366
			UK WEL Long term ppm	100
			UK WEL Short term mgm3	458
			UK WEL Short term ppm	125

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

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pH:	Not determined
Melting point / freezing point:	Not determined
Initial boiling point / range:	Not determined
Flash point:	37.5 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Upper/lower flammability or explosive limits:	Product does not present an explosion hazard
Vapour pressure:	Not determined
Vapour density:	Not determined
Relative density:	0.9300
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.

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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:	Acute Toxicity - Oral Category 4
Acute Toxicity Oral	1817
Acute Toxicity Dermal	>5000
Acute Toxicity Inhalation	Not Available
Skin corrosion/irritation:	Skin Corrosion / Irritation Category 1B
Serious eye damage/irritation:	Eye Damage / Irritation Category 1
Respiratory or skin sensitisation:	Based on available data the classification criteria are not met.
Germ cell mutagenicity:	Based on available data the classification criteria are not met.
Carcinogenicity:	Based on available data the classification criteria are not met.
Reproductive toxicity:	Based on available data the classification criteria are not met.
STOT-single exposure:	Specific Target Organ Toxicity (Single Exposure) Category 3
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
2-Methylbutyric acid	116-53-0	204-145-2	1760	1600	Not available	Not available
4-(p-Hydroxyphenyl)-2-butanone	5471-51-2	226-806-4	1400	Not available	Not available	Not available
Benzaldehyde	100-52-7	202-860-4	1430	Not available	1.5	Dust/mist
Benzyl alcohol	100-51-6	202-859-9	1620	2500	11	Vapour
Butyric acid	107-92-6	203-532-3	1630	Not available	Not available	Not available
Furfural	98-01-1	202-627-7	100	1100	1	Vapour
Isoamyl alcohol	123-51-3	204-633-5	Not available	3220	11	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

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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

14.1 UN number: UN2920

14.2 UN Proper Shipping Name: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (2-Methylbutyric acid, Ethyl acetate)

14.3 Transport hazard class(es): 8

Sub Risk: 3

14.4. Packing Group: II

14.5 Environmental hazards: Not environmentally hazardous for transport

14.6 Special precautions for user: None additional

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

Not applicable

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=83.33% SCI 1B=32.89% SCI 1C=24.39% SCI 2=4.67% EDI 1=11.54% EDI 2=4.13% CAR 2=33.33%

Total Fractional Values: EH C3=1.20 SCI 1B=3.04 SCI 1C=4.10 SCI 2=21.40 EDI 1=8.67 EDI 2=24.20 CAR 2=3.00

Key to revisions:

Not applicable

Key to abbreviations:

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Abbreviation	Meaning
ATD 4	Acute Toxicity - Dermal Category 4
ATI 2	Acute Toxicity - Inhalation Category 2
ATI 4	Acute Toxicity - Inhalation Category 4
ATO 3	Acute Toxicity - Oral Category 3
ATO 4	Acute Toxicity - Oral Category 4
CAR 2	Carcinogenicity Category 2
EDI 1	Eye Damage / Irritation Category 1
EDI 2	Eye Damage / Irritation Category 2
EH C2	Hazardous to the Aquatic Environment - Long-term Hazard Category 2
EUH066	Repeated exposure may cause skin dryness or cracking.
FL 2	Flammable Liquid, Hazard Category 2
FL 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.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
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).
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.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P284	Wear respiratory protection.

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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.
P332/313	If skin irritation 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.
SCI 1A	Skin Corrosion / Irritation Category 1A
SCI 1B	Skin Corrosion / Irritation Category 1B
SCI 1C	Skin Corrosion / Irritation Category 1C
SCI 2	Skin Corrosion / Irritation Category 2
STO-SE 3(NE)	Specific Target Organ Toxicity (Single Exposure) Category 3
STO-SE 3(RI)	Specific Target Organ Toxicity (Single Exposure) Category 3

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.