

Firmenich

Safety Data Sheet

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

050218 B
ARTIFICIAL BANANA FLAVOR
© Firmenich product

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

Ingredient for use in products that may be ingested.
Not for personal use in this form or concentration.
Intended to be used in the manufacture of products for consumers.

1.3 Details of the supplier of the safety data sheet

Mr. Thomas Sulich
Firmenich Inc.
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1.4 Emergency telephone number

FOR INFORMATION OR IN AN EMERGENCY CALL CHEMTREC @ 1-800-424-9300 or 1-703-527-3887.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

According to Regulation HCS 2012

Flammable Liquid - Cat. 3	H226
Skin Sensitization - Cat. 1	H317
Carcinogenicity - Cat. 2	H351
Environmental Hazard (chronic) - Cat. 3	H412

Additional information

Full text of listed statements : See section 16

2.2 Label elements

Hazard pictograms:

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Signal Word:

Warning

Hazard Statements:

H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements:

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.

2.3 Other hazards

CAUTION: THIS MATERIAL CONTAINS VOLATILE FLAVORING CHEMICALS IDENTIFIED IN THE FEMA "RESPIRATORY HEALTH AND SAFETY MANUFACTURING WORKPLACE" DOCUMENT.

No data available at this time.

3 COMPOSITION/INFORMATION ON INGREDIENTS

The exact percentage (concentration) of composition has been withheld as a trade secret.

3.2 Mixture

Mixture of aromatic substances.

Contains :

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>= 60.0 < 70.0%
Isopentyl Acetate
N° CAS : 0000123-92-2
N° EINECS: 204-662-3

Classification: - R10
GHS Classification:
Flammable Liquid - Cat. 3 [H226]

>=2.5 < 5.0%
Benzaldehyde, 4-
Hydroxy-3-Methoxy-
N° CAS : 0000121-33-5
N° EINECS: 204-465-2

Classification: Xi - R36
GHS Classification:
Eye Irritation - Cat.2A [H319]

>= 1.0 < 2.5%
Butanoic Acid, 3-
Methylbutyl Ester
N° CAS : 0000106-27-4
N° EINECS: 203-380-8

Classification: - R52/53,R10
GHS Classification:
Environmental Hazard (chronic) - Cat. 3 [H412]
Flammable Liquid - Cat. 3 [H226]

>= 1.0 < 2.5%
Butanoic Acid, 3-Methyl-,
3-Methylbutyl Ester
N° CAS : 0000659-70-1
N° EINECS: 211-536-1

Classification: N - R51/53
GHS Classification:
Environmental Hazard (chronic) - Cat. 2 [H411]
Flammable Liquid - Cat. 4 [H227]

>= 1.0 < 2.5%
Acetaldehyde
N° CAS : 0000075-07-0
N° EINECS: 200-836-8

Classification: F+ Xn - R36/37,R40,R12
GHS Classification:
Carcinogenicity - Cat. 2 [H351]
Specific Target Organ Toxicity - Single Exposure - Cat. 3 Respiratory Irritation [H335]
Eye Irritation - Cat.2A [H319]
Flammable Liquid - Cat. 1 [H224]

>= 1.0 < 2.5%
Pentyl Formate
N° CAS : 0000638-49-3
N° EINECS: 211-340-6

Classification: Xi - R36/37,R10
GHS Classification:
Specific Target Organ Toxicity - Single Exposure - Cat. 3 Respiratory Irritation [H335]
Eye Irritation - Cat.2A [H319]
Flammable Liquid - Cat. 3 [H226]

>= 0.5 < 1.0%
Phenol, 2-Methoxy-4-(2-
Propenyl)-
N° CAS : 0000097-53-0
N° EINECS: 202-589-1

Classification: Xi - R43,R36
GHS Classification:
Skin Sensitization - Cat. 1B [H317]
Eye Irritation - Cat.2A [H319]

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>= 0.5 < 1.0%
2,6-Octadienal, 3,7-Dimethyl-
N° CAS : 0005392-40-5
N° EINECS: 226-394-6

Classification: Xi - R38,R43
GHS Classification:
Skin Sensitization - Cat. 1B [H317]
Skin Irritation - Cat. 2 [H315]
Eye Irritation - Cat.2A [H319]

>= 0.1 < 0.5%
Limonene
N° CAS : 0000138-86-3
N° EINECS: 205-341-0

Classification: Xn N - R38,R43,R50/53,R65,R10
GHS Classification:
Aspiration Hazard - Cat. 1 [H304]
Skin Sensitization - Cat. 1B [H317]
Skin Irritation - Cat. 2 [H315]
Environmental Hazard (acute) - Cat. 1 [H400]
Environmental Hazard (chronic) - Cat. 1 [H410]
Flammable Liquid - Cat. 3 [H226]

>= 0.1 < 0.5%
Heptanal, 2-(Phenylmethylene)-
N° CAS : 0000122-40-7
N° EINECS: 204-541-5

Classification: Xi N - R43,R51/53,R38
GHS Classification:
Skin Sensitization - Cat. 1B [H317]
Environmental Hazard (chronic) - Cat. 2 [H411]

>= 0.1 < 0.5%
2-Propenal, 3-Phenyl-
N° CAS : 0000104-55-2
N° EINECS: 203-213-9

Classification: Xn - R21,R38,R43
GHS Classification:
Skin Sensitization - Cat. 1A [H317]
Acute Toxicity (dermal) - Cat. 4 [H312]
Skin Irritation - Cat. 2 [H315]
Eye Irritation - Cat.2A [H319]

>= 0.1 < 0.5%
Hexanoic Acid, 2-Propenyl Ester
N° CAS : 0000123-68-2
N° EINECS: 204-642-4

Classification: T N - R21/22,R23,R50/53
GHS Classification:
Acute Toxicity (oral) - Cat. 3 [H301]
Acute Toxicity (dermal) - Cat. 3 [H311]
Acute Toxicity (inhalation) - Cat. 3 [H331]
Environmental Hazard (acute) - Cat. 1 [H400]
Environmental Hazard (chronic) - Cat. 3 [H412]
Flammable Liquid - Cat. 4 [H227]

0 < 0.1%
2-Octynoic Acid, Methyl Ester
N° CAS : 0000111-12-6
N° EINECS: 203-836-6

Classification: Xn - R43,R22
GHS Classification:
Skin Sensitization - Cat. 1A [H317]
Acute Toxicity (oral) - Cat. 4 [H302]
Flammable Liquid - Cat. 4 [H227]

4 FIRST-AID MEASURES

4.1 Description of first aid measures

General information:

As in all cases of potential poisoning, Obtain medical advice immediately.

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In case of eye contact:

In the event of contact with the eyes, irrigate with water for at least 15 minutes; obtain medical advice if irritation persists.

In case of inhalation:

In the event of exposure to vapors, immediately remove from the area to a fresh air environment. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult or labored, give oxygen by qualified personnel. Call for emergency response team.

In case of skin contact:

Remove contaminated clothes. Wash skin with large volumes of water. If irritation persists, or any sign of tissue damage is apparent, obtain medical advice immediately.

In case of ingestion:

In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water. Obtain medical advice immediately. Do not induce vomiting, obtain medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

No information available on the product itself.

4.3 Indication of immediate medical attention and special treatment needed

None known.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

In the event of fire, adequate extinguishers should be used. Avoid inhalation of smoke and fumes. In case of insufficient ventilation, wear suitable respiratory equipment. Cool fire exposed containers with water spray. Extinguishing media: Foam, carbon dioxide or dry chemical.

5.2 Special hazard arising from the substance or mixture

Closed containers may build up pressure if exposed to heat (fire). Vapors form explosive mixtures with air and may travel to a source of ignition and flash back.

5.3 Advice for fire-fighters

No specific advice.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
Adequate protective gloves should be worn when handling spillages. No smoking. Avoid naked flames or other potential sources of ignition (eg. electrical equipment).
Avoid skin contamination and inhalation of vapour.
Individual washing routines should be followed after any potential contact.
Ensure adequate ventilation in working areas following accidental releases.

For emergency personnel:

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Apply the same recommendations as section 6.1

6.2 Environmental precautions

Do not discharge directly into drains, air, into soil or into the aquatic environment.

6.3 Methods and material for containment and cleaning up

For containment:

Eliminate all sources of ignition. Leaking containers should be removed to a well ventilated area if possible to do safely. If not, dike around container to limit spread of spill, leak. If spill/leak is small, clean up with standard absorbents (sand, vermiculite, etc.). Wear rubber gloves. Avoid contact with skin. If skin contact occurs, wash liberally with soap and water. See Section VI above. If large leak/spill, call HAZMAT Team.

Vapors may cause vomiting and nausea. Wear appropriate respiratory protection.

For cleaning-up:

Spillages should be disposed of in accordance with Governmental Regulations.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes.

Wear adequate protective gloves protection and eye/face protection.

No smoking. Avoid any sources of ignition.

Avoid exposing to high temperature during processing.

Do not ingest or apply to the skin as such. Good personal washing routines should be followed.

Maintain adequate local and general ventilation where product is handled.

Protective measures

Keep strict control of dust accumulation to a minimum. Maintain adequate local and general ventilation where product is handled. Avoid any sources of ignition.

Advice on general occupational hygiene

Good personal washing routines should be followed.

7.2 Conditions for safe storage, including any incompatibilities

It is good general practice to store in closed, preferably full, containers away from heat sources, and protected from extremes of temperature. Do not re-use the empty container.

Respect general rules for compatibility storage.

7.3 Specific end use(s)

Not available at this time.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

0000075-07-0 : Acetaldehyde (All forms)

American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV) (1994-SEP)

C (2012-MAR) : 25 ppm, (All forms)

C (1994-SEP) : 45 mg/m³, (All forms)

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0000075-07-0 : Acetaldehyde (All forms)
Occupational Safety and Health Administration (OSHA) (29 CFR 1910.1000 Z-1-A) - Permissible Exposure Limits - 1989 vacated values (1989-MAR)

STEL (1989-MAR) : 150 ppm , 15 minutes (All forms)
STEL (1989-MAR) : 270 mg/m³ , 15 minutes (All forms)
TWA (1989-MAR) : 100 ppm , 8 hours (All forms)
TWA (1989-MAR) : 180 mg/m³ , 8 hours (All forms)

0000075-07-0 : Acetaldehyde (All forms)
Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1001 to 1910.1048 - Substance-Specific Standards (1993-JUN)

TWA (1993-JUN) : 200 ppm , 8 hours (All forms)
TWA (1993-JUN) : 360 mg/m³ , 8 hours (All forms)

0005392-40-5 : Citral (Inhalable fraction and vapor)
American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV) (2012-MAR)

TWA (2009-NOV) : 5 ppm , 8 hours (All forms)

0000123-92-2 : ISOAMYL ACETATE (All forms)
National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (REL) (2010-SEP)

TWA (1994-JUN) : 100 ppm , 10 hours (All forms)
TWA (1994-JUN) : 525 mg/m³ , 10 hours (All forms)

0000123-92-2 : Isoamyl acetate (All forms)
American Conference of Governmental Industrial Hygienists (ACGIH) - Threshold Limit Values (TLV) (2000-MAR)

STEL (2000-MAR) : 100 ppm , 15 minutes (All forms)
TWA (2000-MAR) : 50 ppm , 8 hours (All forms)

0000123-92-2 : Isoamyl acetate (All forms)
Occupational Safety and Health Administration (OSHA) (29 CFR 1910.1000 Z-1-A) - Permissible Exposure Limits - 1989 vacated values (1989-MAR)

TWA (1989-MAR) : 100 ppm , 8 hours (All forms)
TWA (1989-MAR) : 525 mg/m³ , 8 hours (All forms)

0000123-92-2 : Isomyl acetate (All forms)
Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1001 to 1910.1048 - Substance-Specific Standards (1993-JUN)

TWA (1993-JUN) : 100 ppm , 8 hours (All forms)
TWA (1993-JUN) : 525 mg/m³ , 8 hours (All forms)

0000121-33-5 : Vanillin (All forms)
American Industrial Hygiene Association (AIHA) - Workplace Environmental Exposure Levels (WEEL) (2009-JAN)

TWA (2009-JAN) : 10 mg/m³ , 8 hours (All forms)

0000138-86-3 : d-Limonene (All forms)
American Industrial Hygiene Association (AIHA) - Workplace Environmental Exposure Levels (WEEL) (1999-JAN)

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TWA (1999-JAN) : 30 ppm , 8 hours (All forms)

8.2 Exposure controls

Avoid exposing to high temperature during processing.
Maintain adequate local and general ventilation where product is handled.

Appropriate engineering controls

Maintain adequate local and general ventilation where product is handled and dispensed.

Environmental exposure controls

Not available at this time. Minimize release to the environment.

Personal protection

Respiratory protection: Breathing of the vapors or dust particles may be hazardous. In the absence of appropriate engineering controls such as spot ventilation, ventilated enclosures, etc., workers should avail themselves of the appropriate NIOSH approved respiratory protection.

Hand protection: Adequate Protective Gloves should be worn.

Eye protection: Adequate safety glasses should be used.

Skin protection: Wear protective clothing, overall if necessary to limit the odour contamination of personal clothing. Individual washing routines should be followed after any potential contact.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance :	LIQUID
Colour :	COLOURLESS TO PALE YELLOW
Odour :	Characteristic strong odour according to the commercial description of the substance.
pH :	Not available
Melting point/range (°C) :	Not available
Initial boiling point/range (°C) :	Not available
Flash point (closed cup) :	= 77 Fahrenheit (= 25 Centigrade)
Evaporation rate :	Not available
Flammability (solid/gas) :	Not available
Upper/lower flammability or explosive limits :	
Vapor pressure (At 20°C in mm Hg) :	
Calculated vapor pressure (At 20°C in mm Hg):	36.9
Vapour density :	Not available
Relative density (d 20/20) :	0.912 - 0.922
Water solubility (20°C) :	Not applicable
Partition coef. (n-octanol/water) :	Not applicable
Auto-ignition temperature (°C):	Not available
Decomposition temperature :	Not available
Viscosity :	Not available

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Explosive properties :	Not available
Oxidizing properties :	Not available
VOC Content less than:	73%

10 STABILITY AND REACTIVITY

10.1 Reactivity

No reaction known with water.

10.2 Chemical stability

Presents no significant reactivity hazard. Normally stable even at elevated temperatures and pressures. Avoid temperatures above or near to the flash point. Not pyrophoric nor reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxygen donor. Does not form explosive mixtures with other organic materials. Will not undergo hazardous exothermic polymerization.

10.3 Possibility of hazardous reactions

Not known.

10.4 Conditions to avoid

Avoid temperatures above or at least 5 °C below flash point for any flammable liquids.
Do not heat closed containers.
Avoid contact with oxidizing agents.

10.5 Incompatible materials

Avoid strong oxidizing agents.

10.6 Hazardous decomposition products

Contact with water or storage under recommended conditions for one year should not produce dangerous decomposition products.

11 TOXICOLOGICAL INFORMATION

This mixture has not been subjected to toxicological testing as an entity. According to available data on the constituents the health classification criteria are met.

12 ECOLOGICAL INFORMATION

This mixture has not been subjected to ecotoxicological testing as an entity. According to available data on the constituents the environmental classification criteria are met.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: The product should be handled according to the instructions given under sections 6, 7 and 8. Dispose of according to local or national regulations. The product should not be allowed to enter drains or the environment.

Contaminated packaging: Empty packaging should be disposed according to local or national regulations by an approved waste handling

14 TRANSPORT INFORMATION

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In case of accidental spillage or fire during transport, refer to instructions given under points 5, 6, 7 and 8 above.

UNO

UN-No: 1197
Proper Shipping Name: EXTRACTS, FLAVOURING, LIQUID
Class: 3
Packing Group: III

Land transport (ADR/RID)

UN-No: 1197
Proper Shipping Name: EXTRACTS, FLAVOURING, LIQUID
Class: 3
Packing group: III

Sea transport (IMDG-Code)

UN-No: 1197
Proper Shipping Name: EXTRACTS, FLAVOURING, LIQUID
Class: 3
Packing group: III

Air transport (ICAO-IATA)

UN-No: 1197
Proper Shipping Name: EXTRACTS, FLAVOURING, LIQUID
Class: 3
Packing group: III

15 REGULATORY INFORMATION

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

NFPA Hazard Classification

Health: 2
Flammability: 3
Reactivity: 0

This mixture contains a toxic chemical or chemicals subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 29 CFR 1910.1200.

1.5% Acetaldehyde,
CAS# 75-07-0,

15.2 Chemical Safety Assessment

No data available at this time.

16 OTHER INFORMATION

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Revisions

- 01-Dec-2010: Version 6.1 - First version validated for publication
- 04-May-2012: Version 6.2 - Updates to sections 1, 2, 3, 8.3, 11, 12, 16.
- 20-Apr-2013: Version 6.3 - Updates to sections 1, 2, 3, 8.1, 14, 16.
- 07-July-2014: Version 6.4- Updates to section 2, 3, 14, 16.
- 30-May-2015: Version 6.5- Updates to section 2, 3, 7, 8, 9,13,14,16

Key literature references

- RIFM database
- OECD SIDS
- EU IUCLID
- Supplier information

Full text of phrases used under section 2

S16	Keep away from sources of ignition - No smoking.
S36/37	Wear suitable protective clothing and gloves.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.
H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer /\$#GHS_ROE#\$/.
H412	Harmful to aquatic life with long lasting effects.
P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P240	Ground/bond container and receiving equipment.
P281	Use personal protective equipment as required.
P241	Use rated explosion-proof electrical equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P370+P378	In case of fire: Use appropriate fire extinguishers for fire control.
P391	Collect spillage.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P235	Keep cool.
P308	IF exposed or concerned:

Full text of phrases used under section 3

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H224	Extremely flammable liquid and vapour.
H226	Flammable liquid and vapour.
H227	Combustible liquid
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
R10	Flammable.
R12	Extremely flammable.
R21/22	Harmful in contact with skin and if swallowed.
R23	Toxic by inhalation.
R36	Irritating to eyes.
R36/37	Irritating to eyes and respiratory system.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Firmenich, it is the user's obligation to determine conditions of safe use of the product.

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