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In accordance with UN GHS latest edition

Product: DUTCH HARVEST F20097

Version: 2

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

1.1 Product Identifier

Product identifier: DUTCH HARVEST F20097(Contains:Cinnamaldehyde, Coumarin, Eugenol, Piperonal)

Other identifiers: None

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

Product uses: Fragrances

1.3 Details of the supplier of the safety data sheet

Company name: Aromatic Fragrances International

Company address: 85 Wansley Drive SE
Cartersville, GA 30121
USA

Contact: Regulatory Affairs

E-Mail address: regulatory@afi-usa.com

Company phone: 770-334-3906

1.4 Emergency telephone number

Emergency phone: +1 888 360 3639

Section 2. Hazards identification

2.1 Classification of the substance or mixture

Class and category of danger:
Acute Toxicity - Oral Category 4
Acute Toxicity - Dermal Category 4
Skin Corrosion / Irritation Category 2
Eye Damage / Irritation Category 2
Sensitization - Skin Category 1
Toxic to Reproduction Category 2
Hazardous to the Aquatic Environment - Acute Hazard Category 1
Hazardous to the Aquatic Environment - Long-term Hazard Category 2
H302, Harmful if swallowed.
H312, Harmful in contact with skin.
H315, Causes skin irritation.
H319, Causes serious eye irritation.
H317, May cause an allergic skin reaction.
H361, Suspected of damaging fertility or the unborn child (exposure route).
H400, Very toxic to aquatic life.
H411, Toxic to aquatic life with long lasting effects.

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2.2 Label elements

Signal word: Warning

Hazard statements:

H302, Harmful if swallowed.
H312, Harmful in contact with skin.
H315, Causes skin irritation.
H319, Causes serious eye irritation.
H317, May cause an allergic skin reaction.
H361, Suspected of damaging fertility or the unborn child (exposure route).
H400, Very toxic to aquatic life.
H411, Toxic to aquatic life with long lasting effects.

Precautionary statements:

P202, Do not handle until all safety precautions have been read and understood.
P264, Wash hands and other contacted skin thoroughly after handling.
P270, Do not eat, drink or smoke when using this product.
P273, Avoid release to the environment.
P280, Wear protective gloves/eye protection/face protection.
P261, Avoid breathing vapour or dust.
P272, Contaminated work clothing should not be allowed out of the workplace.
P301/312, IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.
P305/351/338, IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302/352, IF ON SKIN: Wash with plenty of soap and water.
P312, Call a POISON CENTRE or doctor/physician if you feel unwell.
P308/313, IF exposed or concerned: Get medical advice/attention.
P330, Rinse mouth.
P337/313, If eye irritation persists: Get medical advice/attention.
P333/313, If skin irritation or rash occurs: Get medical advice/attention.
P362, Take off contaminated clothing and wash before reuse.
P391, Collect spillage.
P405, Store locked up.
P501, Dispose of contents/container to approved disposal site, in accordance with local regulations.

Pictograms:

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2.3 Other hazards

Other hazards: Hydrocarbon Concentration %: 0.0000%

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 17 1207/2006, Annex XIII.

Section 3. Composition / information on ingredients

3.2 Mixtures

Contains:

Name	CAS	%	GHS Classification
Cinnamaldehyde	104-55-2	50-100%	Acute Tox. 5-Acute Tox. 4-Skin Irrit. 2-Eye Irrit. 2A-Skin Sens. 1A-Aquatic Acute 1-Aquatic Chronic 2;H303-H312-H315-H319-H317-H400-H411
Coumarin	91-64-5	10-<20%	Acute Tox. 4-Skin Sens. 1B-Aquatic Acute 3;H302-H317-H402
Vanillin	121-33-5	10-<20%	Acute Tox. 5-Acute Tox. 5-Eye Irrit. 2A-Aquatic Acute 3;H303-H313-H319-H402
Eugenol	97-53-0	1-<5%	Acute Tox. 5-Skin Irrit. 3-Eye Irrit. 2A-Skin Sens. 1B-Aquatic Acute 2;H303-H316-H319-H317-H401
Cinnamyl alcohol	104-54-1	1-<5%	Acute Tox. 4-Skin Irrit. 3-Skin Sens. 1B-Aquatic Acute 2;H302-H316-H317-H401
Cinnamyl acetate	103-54-8	1-<5%	Acute Tox. 5-Aquatic Acute 2;H303-H401
Ethyl maltol	4940-11-8	1-<5%	Acute Tox. 4-Aquatic Acute 2;H302-H401
Piperonal	120-57-0	1-<5%	Acute Tox. 5-Skin Sens. 1B-Repr. 2-Aquatic Acute 2;H303-H317-H361-H401
Butylated hydroxytoluene	128-37-0	1-<5%	Aquatic Acute 1-Aquatic Chronic 1;H410
beta-Caryophyllene	87-44-5	0.1-<1%	Skin Sens. 1B-Asp. Tox 1;H304-H317
Eugenyl acetate	93-28-7	0.1-<1%	Acute Tox. 4-Skin Sens. 1B-Aquatic Acute 2;H302-H317-H401
gamma-Heptalactone	105-21-5	0.1-<1%	Skin Irrit. 2-Aquatic Acute 3;H315-H402
Acetyl propionyl	600-14-6	0.1-<1%	Flam. Liq. 2-Acute Tox. 5-Acute Tox. 5-Skin Irrit. 3-Eye Dam. 1-Skin Sens. 1B-STOT RE 2;H225-H303-H313-H316-H318-H317-H373

Substances with workplace exposure limits, not listed above:

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: Wash with plenty of soap and water.

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

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed.

Harmful in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child (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.

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:

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 explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take

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precautionary measures against static discharge.

7.3 Specific end use(s):

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

Section 8. Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits: Not Applicable

8.2 Exposure Controls

Eye / Skin Protection

Wear protective gloves/eye protection/face protection

Respiratory Protection

Under normal conditions of use and where adequate ventilation is available to prevent build up of excessive vapour, this material should not require special engineering controls. However, in conditions of high or prolonged use, or high temperature or other conditions which increase exposure, the following engineering controls can be used to minimise exposure to personnel: a) Increase ventilation of the area with local exhaust ventilation. b) Personnel can use an approved, appropriately fitted respirator with organic vapour cartridge or canisters and particulate filters. c) 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:	Free flowing liquid without sediment
Odour:	Characteristic
Odour threshold:	Not determined
Melting point / freezing point:	Not determined
Boiling point or initial boiling point and boiling range:	Not determined
Flammability:	Not determined
Lower and upper explosion limit:	Not determined
Flash point:	> 93 °C
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not relevant
pH:	Not determined
Kinematic viscosity:	Not determined
Solubility:	Not determined
Partition coefficient: n-octanol/water (log	Not determined

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value):

Vapour pressure:	Not determined
Density and/or relative density:	1.0750 - 1.1050
Relative vapour density:	Not determined
Particle characteristics:	Not determined

9.2 Other information:

Flash Point (Fahrenheit):	> 200 °F
Refractive Index @ 20C:	1.6046 - 1.6146
Color Range:	6 Pale Yellow - 4 Pale Yellow
Calculated VOC:	0.50

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 UN GHS.

Acute Toxicity:	Acute Toxicity - Oral Category 4
	Acute Toxicity - Dermal Category 4
Acute Toxicity Oral	1716
Acute Toxicity Dermal	1902
Acute Toxicity Inhalation	Not Available
Skin corrosion/irritation:	Skin Corrosion / Irritation Category 2

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Serious eye damage/irritation: Eye Damage / Irritation Category 2
Respiratory or skin sensitisation: Sensitization - Skin Category 1
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: Toxic to Reproduction Category 2
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	LD50/ATE Oral (mg/kg)	LD50/ATE Dermal (mg/kg)	LC50/ATE Inhalation	LC50 Route
Cinnamaldehyde	104-55-2	2220	1260		
Cinnamyl acetate	103-54-8	3330			
Cinnamyl alcohol	104-54-1	2000			
Coumarin	91-64-5	500			
Ethyl maltol	4940-11-8	1200			
Eugenol	97-53-0	2500			
Piperonal	120-57-0	2700			
Vanillin	121-33-5	3300	2600		

Refer to Sections 2 and 3 for additional information.

Section 12. Ecological information

12.1 Toxicity:

Very toxic to aquatic life.
Toxic 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 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.

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Section 14. Transport information

	14.1 UN number:	14.2 UN Proper Shipping Name:	14.3 Transport hazard class (es):	Sub Risk:	14.4 Packing Group:
UN Model Regulations	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cinnamaldehyde, Butylated hydroxytoluene)	9	-	III
IMDG	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cinnamaldehyde, Butylated hydroxytoluene) MARINE POLLUTANT	9	-	III
ADR,RID,ADN	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cinnamaldehyde, Butylated hydroxytoluene)	9	-	III
ICAO TI	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cinnamaldehyde, Butylated hydroxytoluene)	9	-	III

14.5 Environmental hazards: This is classified as an environmentally hazardous substance under the UN Model Regulations. This is classified as a Marine Pollutant under the IMDG Code.

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

Essential Oil Components:

Name	CAS	%
Clove bud oil	84961-50-2, 8000-34-8	1-<5%
Clove leaf oil	84961-50-2, 8000-34-8	1-<5%

Naturally-Occuring Materials exempt from Prop65:

Name	CAS	%
Eugenyl methyl ether	93-15-2	

Components listed on California's SB312

Name	CAS	%
Cinnamaldehyde	104-55-2	50-100%

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Coumarin	91-64-5	10-<20%
Cinnamyl alcohol	104-54-1	1-<5%

Additional formulation properties

Name	CAS	%
Vanillin	121-33-5	10-<20%

Section 16. Other information

Concentration % Limits: SCI 2=16.29% SCI 3=1.60% EDI 2A=13.17% REP 2=100.00% SS 1=0.16286645% EH A1=40.06% EH A2=3.91% EH A3=0.38950949% EH C2=35.01% EH C3=3.50% EH C4=40.06%

Total Fractional Values: SCI 2=6.14 SCI 3=62.38 EDI 2A=7.59 REP 2=1.00 SS 1=614.00 EH A1=2.50 EH A2=25.59 EH A3=256.73 EH C2=2.86 EH C3=28.56 EH C4=2.50

Key to revisions:

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.3. Transport hazard class(es)
14.4. Packing group
2.1 Classification of the substance or mixture
Concentration % Limits
Hazardous Ingredients disclosed in a GHS Safety Data Sheet with banded concentrations
Information about hazardous ingredients in the mixture
Ingredients with an Occupational Exposure Limit disclosed on a GHS Safety Data Sheet Banded values
SECTION 3: Composition/information on ingredients
Total Fractional Values

Key to abbreviations:

Abbreviation	Meaning
Acute Tox. 4	Acute Toxicity - Dermal Category 4
Acute Tox. 4	Acute Toxicity - Oral Category 4
Acute Tox. 5	Acute Toxicity - Oral Category 5
Acute Tox. 5	Acute Toxicity - Dermal Category 5
Aquatic Acute 1	Hazardous to the Aquatic Environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the Aquatic Environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the Aquatic Environment - Acute Hazard Category 3
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
Eye Dam. 1	Eye Damage / Irritation Category 1

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Eye Irrit. 2A	Eye Damage / Irritation Category 2A
Flam. Liq. 2	Flammable Liquid, Hazard Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H313	May be harmful in contact with skin.
H315	Causes skin irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child (exposure route).
H373	May cause damage to organs (organs) through prolonged or repeated exposure (exposure route).
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
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.
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.
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.
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.
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.

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P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P330	Rinse mouth.
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.
P403/235	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.
Repr. 2	Toxic to Reproduction Category 2
STOT RE 2	Specific Target Organ Toxicity (Repeated Exposure) Category 2
Skin Irrit. 2	Skin Corrosion / Irritation Category 2
Skin Irrit. 3	Skin Corrosion / Irritation Category 3
Skin Sens. 1A	Sensitization - Skin Category 1A
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.