SAFETY DATA SHEET
Flue Cured Flavor

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according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 00145
Product Name: Flue Cured Flavor
Trade Name: Flue Cured Flavor

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

1.3 Details of the Supplier of the Safety Data Sheet:
Company Name: Perfumer's Apprentice
170 Technology Circle
Scotts Valley, CA 95066

1.4 Emergency telephone number:

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

Flammable Liquids, Category 4
Acute Toxicity: Oral, Category 5
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2A

2.1.2 Classification according to Directive 1999/45/EC:

Xn: Harmful
Risk Phrases: R22, R36/37/38
For full text of R- phrases: see SECTION 15.

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: **Warning**

GHS Hazard Phrases:

H227 - Combustible liquid.
H303 - May be harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

GHS Precaution Phrases:

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P264 - Wash hands thoroughly after handling.

GHS Response Phrases:

P370+378 - In case of fire, use ... to extinguish.
P312 - Call a POISON CENTER/doctor/... if you feel unwell.
P302+352 - IF ON SKIN: Wash with plenty of soap and water.
P321 - Specific treatment see ... on this label.
P332+313 - If skin irritation occurs, get medical advice/attention.
P362 - Take off contaminated clothing.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313 - If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases:

P403+235 - Store in cool/well-ventilated place.
P501 - Dispose of contents/container to ....

2.2.2 Labeling according to Directive 1999/45/EC:

Xn

2.3 Adverse Human Health Effects and Symptoms: Prolonged or repeated contact may result in "vanillism", an allergic dermatitis. Doesn't seem likely upon a closer look since the allergic reaction is caused by a mite in the 'raw' vanilla.

Chronic ingestion may cause lactic acidosis and possible seizures.

Chronic: Exposure to large doses may cause central nervous system depression. Exposures to propylene glycol having no adverse effects on the mother should have no effect on the fetus. Birth defects are unlikely. In animal studies, propylene glycol has been shown not to interfere with reproduction.

2.3.1 Inhalation: Low hazard for normal industrial handling. Inhalation of a mist of this material may cause respiratory tract irritation. Material has a low vapor pressure at room temperature, so exposure to vapor is not likely. Causes respiratory tract irritation. May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. No hazard expected in normal industrial use. Dust is irritating to the respiratory tract. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

2.3.2 Skin Contact: May be absorbed through damaged or abraded skin in harmful amounts. Allergic reactions have been reported. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts. Repeated exposures may cause problems. Negative results have consistently been obtained in guinea pigs studies for sensitization. 1,,2-Propylene glycol is not considered an occupational skin sensitizer. (CHEMINFO) Causes skin irritation. May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin. Dust may cause mechanical irritation. Low hazard for normal industrial handling. Causes skin burns.

2.3.3 Eye Contact: May cause slight transient injury. Causes eye irritation. Dust may cause mechanical irritation. Low hazard for normal industrial handling. Causes eye burns.

2.3.4 Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Low hazard for usual industrial handling. May cause hemoglobinuric nephrosis. May cause changes in surface EEG. Harmful if swallowed. May cause irritation of the digestive tract.

Section 3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
57-55-6	Propylene glycol	>=10.0 %	200-338-0 NA	No phrases apply.
91-10-1	2,6-Dimethoxyphenol	>=10.0 %	202-041-1 NA	Xn; R22-43-36/37/38
4940-11-8	2 - Ethyl - 3 - hydroxy - 4 - pyrone	1.0 -10.0 %	225-582-5 NA	Xn; R22
121-33-5	Benzaldehyde, 4-Hydroxy-3-methoxy-	1.0 -10.0 %	204-465-2	No phrases apply.

			NA	
104-55-2	Cinnamaldehyde	< 1.0 %	203-213-9	N; R43-50
			NA	
64-17-5	Ethyl alcohol	< 0.5 %	200-578-6	F; R11
			603-002-00-5	Flam. Liq. 2: H225

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Get medical aid. Remove from exposure and move to fresh air immediately. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical aid if cough or other symptoms appear. If breathed in, move person into fresh air. Consult a physician.

In Case of Skin Contact: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. In case of skin contact, flush with copious amounts of water for at least 15 minutes. Call a physician. Get medical aid if irritation develops or persists. Wash off with soap and plenty of water. Consult a physician.

In Case of Eye Contact: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

In Case of Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Get medical aid immediately. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. If swallowed, wash out mouth with water provided person is conscious. Call a physician. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Treat symptomatically and supportively. Get medical aid if irritation or symptoms occur. Rinse mouth with water. Consult a physician.

4.2 Important Symptoms and Effects, Both Acute and Delayed: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Burning sensation, Cough, Wheezing, Laryngitis, Shortness of breath, Headache. Nausea. Vomiting.

Note for the Doctor: Persons with impaired kidney function may be more susceptible to the effects of this substance. Treat symptomatically and supportively. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Section 5. Fire Fighting Measures

5.1	**Suitable Extinguishing Media:**	Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam. Use water spray, dry chemical, carbon dioxide, or chemical foam. Suitable: Water spray. In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.
5.2	**Flammable Properties and Hazards:**	CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
	Flash Pt:	
	Explosive Limits:	LEL: UEL:
	Autoignition Pt:	
5.3	**Fire Fighting Instructions:**	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Dust from this material can form explosive organic dust cloud. Wear self contained breathing apparatus for fire fighting if necessary.

Section 6. Accidental Release Measures

6.3	**Methods and Material For Containment and Cleaning Up:**	Use proper personal protective equipment as indicated in Section 8. Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Avoid generating dusty conditions. Do not let this chemical enter the environment. PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL. Evacuate area. PROCEDURE(S) OF PERSONAL PRECAUTION(S) Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Methods for cleaning up. Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Personal precautions. Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Environmental precautions. Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

7.1	**Precautions To Be Taken in Handling:**	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Minimize dust generation and accumulation. Avoid breathing dust, mist, or vapor. User Exposure: Do not breathe dust. Avoid breathing dust. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
7.2	**Precautions To Be Taken in Storing:**	Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. Store in a cool, dry place. Suitable: Keep container tightly closed in a dry and well-ventilated place.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
57-55-6	Propylene glycol	TWA: 474 mg/m3 (150 ppm) (Total Particulates) TWA: 10 mg/m3 (Powder)		
91-10-1	2,6-Dimethoxyphenol			
4940-11-8	2 - Ethyl - 3 - hydroxy - 4 - pyrone			
121-33-5	Benzaldehyde, 4-Hydroxy-3-methoxy-			
104-55-2	Cinnamaldehyde			
64-17-5	Ethyl alcohol	TWA: 1920 mg/m3 (1000 ppm) STEL: ()	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)	

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
57-55-6	Propylene glycol			
91-10-1	2,6-Dimethoxyphenol			
4940-11-8	2 - Ethyl - 3 - hydroxy - 4 - pyrone			
121-33-5	Benzaldehyde, 4-Hydroxy-3-methoxy-			
104-55-2	Cinnamaldehyde			
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm	

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.): Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Safety shower and eye bath. Mechanical exhaust required.

8.2.2 Personal protection equipment:

Eye Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Chemical safety goggles. Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Protective Gloves: Wear appropriate protective gloves to prevent skin exposure. Hand: Compatible chemical-resistant gloves. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure. Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Equipment (Specify Type): A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Work/Hygienic/Maintenance Practices: Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid

Appearance and Odor: Transparent yellow liquid.
Tobacco taste and aroma.

Melting Point:

Boiling Point:

Flash Pt:

Evaporation Rate:

Explosive Limits: LEL: UEL:

Vapor Pressure (vs. Air or mm Hg):

Vapor Density (vs. Air = 1):

Specific Gravity (Water = 1):

Solubility in Water:

Autoignition Pt:

9.2 Other Information

Percent Volatile:

Section 10. Stability and Reactivity

10.1 Reactivity:

10.2 Stability: Unstable [ ] Stable [X]

10.3 Conditions To Avoid - Hazardous Reactions: No data available.

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]

10.4 Conditions To Avoid - Instability: Excess heat, moist air, Incompatible materials, dust generation, Light, Moisture, Heat, flames and sparks.

10.5 Incompatibility - Materials To Avoid: Strong oxidizing agents, Bases, Acid anhydrides, Acid chlorides.

10.6 Hazardous Decomposition Or Byproducts: Carbon monoxide, Carbon dioxide, irritating and toxic fumes and gases, formed under fire conditions. Carbon oxides.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: Epidemiology: No information found.
Teratogenicity: No information available. Reproductive Effects: Mutagenicity:
Neurotoxicity: No data available.
Teratogenicity: No data available.
Experimental mutagen in human lymphocyte cells.
Other Studies:

Carcinogenicity/Other Information: CAS# 57-55-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 91-10-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 121-33-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65. Carcinogenicity.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Section 12. Ecological Information

12.1 Toxicity: Ecotoxicity: Water flea Daphnia: EC50 10000 mg/L; 48 HrUnspecified, Bacteria: Phytobacterium phosphoreum: EC50 = 710 mg/L; 30 min; Microtox testFish: Goldfish: LC50 5000 mg/L; 24 Hr; UnspecifiedFish: Guppy: LC50 1000 mg/L; 48 Hr; Unspecified If released to water, 1,2-propanediol is expected to degrade relatively rapidly via biodegradation. If released to soil, relatively rapid biodegradation should also occur. Significant leaching in soil can be predicted.
Environmental: If released to the atmosphere, it is degraded rapidly by reaction with photochemically produced hydroxyl radicals (typical half-life of 32 hr). Physical removal from air by rainfall is possible.
Physical: No information available.
Other: No information available. No information available.
Other: Do not empty into drains.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed. APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Product.
This combustible material may be burned in a chemical incinerator equipped with an

afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging.
Dispose of as unused product.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated. Not regulated as a hazardous material.
DOT Hazard Class:
UN/NA Number:

14.1 LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated. No information available.

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name:
UN Number:
Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15. Regulatory Information

European Community Hazard Symbol codes:

European Community Risk and Safety Phrases:

R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S22	Do not breathe dust.

Section 16. Other Information

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Additional Information About This Product: