



# OSHA MATERIAL SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product : APPLE - 17J04AFA

Date : May 11, 2007

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : APPLE - 17J04AFA  
IFF Product Code : N.AP.  
Prepared for : PEPSI COLA  
Customer Product No : SN022230  
Product Use : Flavor for consumer product.  
Company Identification : IFF USA FLAVORS (SOUTH BRUNSWICK)  
150 Docks Corner Road  
Dayton NJ 08810  
Telephone Numbers : Transport Emergency (1) 800 424 9300  
Product Information (1) 732 329 4600

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chem. Identification : FLAVOR COMPOUND

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>ACGIH STEL</u>
ACETALDEHYDE	75-07-0	200.00 ppm	N.AP.	25.00 ppm-C
N-BUTYL ACETATE	123-86-4	150.00 ppm	150.00 ppm	200.00 ppm
ETHYL ACETATE	141-78-6	400.00 ppm	400.00 ppm	N.AP.
ISOAMYL ACETATE	123-92-2	100.00 ppm	50.00 ppm	100.00 ppm
PROPAN-1-OL	67-63-0	400.00 ppm	200.00 ppm	400.00 ppm

Flavoring Compound: A multi component mixture of flavoring ingredients. The specific chemical identities of the ingredients not listed herein are considered by IFF to be Trade Secrets and are withheld in accordance with the provisions of 1910.1200 of Title 29 of the U.S. Code of Federal Regulations.

### 3. HAZARDS IDENTIFICATION

Flammable! Eliminate all ignition sources. Bond and ground all containers and transfer systems.

Primary Routes of Exposure.

Skin contact  
Eye contact  
Inhalation

Potential Health Hazards.

This mixture has not been tested as a whole. It contains ingredients present at concentrations exceeding OSHA thresholds that undiluted and at ambient conditions could have the following health hazards:

Acute Exposure

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### 3. HAZARDS IDENTIFICATION

Irritating to skin, eyes, and respiratory system.  
Prolonged skin contact, inhalation or ingestion may be harmful.  
Repeated contact may cause allergic skin reaction.  
Inhalation may cause CNS effects, nausea, vomiting, headaches, and dizziness.

#### Chronic Exposure

Repeated daily dosing of large amount to laboratory animals resulted in kidney, blood, and liver effects.  
Similar effects have not been reported in humans.

NIOSH has reported the occurrence of severe lung disease in workers who make or use flavorings. According to NIOSH, the main respiratory symptoms experienced by workers affected by fixed airways obstruction include cough (usually without phlegm) and shortness of breath on exertion. NIOSH further reports that some workers may experience fever, night sweats, and weight loss. Refer to Section 8 of this MSDS for Additional Information.

Carcinogenicity : OSHA[ ] IARC[ ] NTP[ ] ACGIH[ ]

### 4. FIRST AID MEASURES

Inhalation : Remove from exposure to fresh air. Obtain medical advice as necessary. Resuscitate or administer oxygen as needed.

Eye Contact : Flush immediately with water for at least 15 minutes. Contact a physician if symptoms persist.

Skin Contact : Remove contaminated clothing. Wash affected area thoroughly with soap and water. Contact a physician if symptoms persist.

Ingestion : Give water to dilute and obtain medical advice.

### 5. FIRE FIGHTING MEASURES

Flash Point : 88 °F / 31 °C (typical analysis) Tag Closed Cup

Explosive limit vol% in air : none expected.

Auto-Ignition Temp. : Not available

Extinguishing Media : Use water spray, dry chemical, carbon dioxide or appropriate foam.

Special Fire Fighting Proc. : Wear NIOSH approved self-contained breathing apparatus and full protective clothing when fighting fires involving chemicals. Use water spray to cool containers exposed to fire.

Unusual Fire and Explosion Hazards : Closed containers may build pressure when exposed to heat or fire.

### 6. ACCIDENTAL RELEASE MEASURES

Personal Protection : Avoid inhalation and contact with skin and eyes. Self contained breathing apparatus and protective clothing is advised for major spills and spills or leaks in confined areas.

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### 6. ACCIDENTAL RELEASE MEASURES

Procedures : Eliminate all ignition sources. Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent materials. Use Sodium Hypochlorite solution (bleach) to neutralize odor.

### 7. HANDLING AND STORAGE

Handling Procedures : Avoid excessive inhalation of concentrated vapors. Follow good manufacturing practices for housekeeping and personal hygiene. Wash any exposed skin immediately after any chemical contact, before breaks and meals, and at the end of each work period. Contaminated clothing and shoes should be thoroughly cleaned before re-use.

If appropriate, procedures used during the handling of this material should also be used when cleaning equipment or removing residual chemicals from tanks or other containers, especially when steam or hot water is used, as this may increase vapor concentrations in the workplace air. Where chemicals are openly handled, access should be restricted to properly trained employees.

Heating : Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.

Storage Conditions : Store in a cool, dry, ventilated area away from heat sources. Keep containers upright and tightly closed when not in use.

### 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Closed Systems : Where appropriate, use closed systems to transfer and process this material

Isolation : If appropriate, 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.

Ventilation : 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.

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### 8. EXPOSURE CONTROL/PERSONAL PROTECTION

**Respiratory Protection** : No respiratory protection is required during normal operations in a workplace where engineering controls such as adequate ventilation, etc. are sufficient.

If engineering controls and safe work practices are not sufficient, an approved, properly fitted respirator with organic vapor cartridges or canisters and particulate filters should be used:

- a) while engineering controls and appropriate safe work practices and/or procedures are being implemented; or
- b) during short term maintenance procedures when engineering controls are not in normal operation or are not sufficient; or
- c) if normal operational workplace vapor concentration in the air is increased due to heat ; or
- d) during emergencies; or
- e) if engineering controls and operational practices are not sufficient to reduce airborne concentrations below an established occupational exposure limit.

**Skin Protection** : Avoid contact with skin. Use chemical resistant gloves.

**Eye Protection** : Use tight-fitting goggles, face shield or safety glasses with side shields if eye contact might occur.

**Exposure Monitoring** : To the extent deemed appropriate, use an experienced air sampling expert to identify and measure volatile chemicals that could be present in the workplace air to determine potential exposures and to ensure the continuing effectiveness of engineering controls and operational practices to minimize exposure.

**Worker Health Monitoring** : To the extent deemed appropriate, implement pre-placement and regularly scheduled ascertainment of symptoms and spirometry testing of lung function for workers who are regularly exposed to this material.

**Additional Information** : In December 2003, the National Institute for Occupational Safety and Health ("NIOSH") published an Alert on preventing lung disease in workers who use or make flavorings. [NIOSH Publication Number 2004-110]  
In August 2004, the United States Flavor and Extract Manufacturers Association (FEMA) issued a report entitled "Respiratory Safety in the Flavor Manufacturing Workplace".  
Both of these reports provide recommendations for reducing employee exposure and for medical surveillance in the workplace. The recommendations in these reports are generally applicable to the use of any chemical in the workplace and you are strongly urged to review both of these reports.  
The report published by FEMA also contains a list of "high priority" chemicals. If any of these chemicals are present in this product at a concentration  $\geq 1.0\%$  due to an intentional addition by IFF, the chemical(s) will be identified in this safety data sheet.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: CLEAR LIQUID
Odor	: ACCORDING TO STANDARD.
Color	: COLORLESS
pH	: NOT APPLICABLE.
Vapour pressure (mmHg)	: 12.6262 calc.
Density (relative) d20/4	: NOT DETERMINED.
Boiling point	: NOT DETERMINED.
Melting point	: NOT DETERMINED.
Solubility	: WATER, PG
Specific Gravity	: 0.9750 - 0.9950
Evaporation Rate	: NOT DETERMINED.
Percent Volatile @70°F	: NOT DETERMINED.
Partition coef. log p octanol/water	: NOT DETERMINED.

### 10. STABILITY AND REACTIVITY

Stability	: This material is considered stable under normal conditions of storages, shipment and/or use. It presents no significant reactivity hazards by itself or in contact with water. Hazardous polymerization will not occur.
Incompatibility	: Avoid contact with strong acids, alkalis or oxidizing agents.
Decomposition	: Carbon Monoxide and unidentified organic compounds may be formed during combustion.

### 11. TOXICOLOGICAL INFORMATION

#### Target Organ Effects.

Repeated daily dosing of large amount to laboratory animals resulted in kidney, blood, and liver effects. Similar effects have not been reported in humans.

Refer to Section 8 of this MSDS for Additional Information.

### 12. ECOLOGICAL INFORMATION

General	: Avoid contamination of soil, ground and surface water. While no specific environmental toxicity or related data is available, flavoring compositions are not expected to accumulate in the environment and environmental problems are not expected under normal conditions of use.
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### 13. DISPOSAL CONSIDERATIONS

Procedures : Place material into sealed containers and dispose of in accordance with local, state and federal regulations.

### 14. TRANSPORTATION INFORMATION

<u>Regulator</u>	<u>Class</u>	<u>Pack Group</u>	<u>Sub risk</u>	<u>UN-nr.</u>
DOT (Non-Bulk)	: 3	III		UN1197
Proper Shipping Name	: EXTRACTS, FLAVOURING, LIQUID			
RQ	: 94084 LBS. - N-BUTYL ACETATE			
IATA (Air Cargo)	: 3	III		UN1197
Proper Shipping Name	: EXTRACTS, FLAVOURING, LIQUID			
IMDG	: 3	III		UN1197
Proper Shipping Name	: EXTRACTS, FLAVOURING, LIQUID			

### 15. REGULATORY INFORMATION

SARA Title III

Section 311 Hazard Categories:

Fire[ X ] Sudden Release of Pressure[ ] Reactivity[ ] Acute Health[ X ] Chronic Health[ X ]

Section 313 Toxic Chemicals

This proprietary material contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Class</u>	<u>Concentration (% by weight)</u>
Aldehydes	0.6
Hydroxy Compounds	0.6
Alcohols (ol,diol)	1.2

### 16. OTHER INFORMATION

<u>Hazard Rating</u>		<u>Scale</u>
Health	01	0-Insignificant
Fire	03	1-Slight
Reactivity	00	2-Moderate
		3-High
		4-Extreme

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### Disclaimer

The information in this MSDS was obtained from current and reliable sources. However the data is provided without any warrant, expressed or implied, regarding its correctness or accuracy. Since the use, handling, storage and disposal of this product are beyond IFF control, it is the responsibility of the user both to determine safe conditions for the use of this product and to assume liability of loss, damage, or expense arising out of the product's improper use. No warranty expressed or implied regarding the product described herein shall be created by or inferred from any statement or omission in this MSDS. Various Federal, State or Provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in this MSDS. The user should review these regulations to ensure full compliance.

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