SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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UNITED STATES
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Product Code: 808
Product Name: FARNESENE, MIXTURE OF ISOMERS
Uses: flavors and fragrances

SECTION 2. HAZARDS IDENTIFICATION

HMIS HAZARD CLASSIFICATIONS
HEALTH = 1 FLAMMABILITY = 1 REACTIVITY = 0 PROTECTION = B

LABEL PRECAUTIONARY STATEMENTS
U.S. HAZARD LABELING
**DO NOT HEAT FOR ANY REASON**
Keep cold.
GHS CLASSIFICATION AND LABELLING
The following determinations per the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) have been made:
GHS SIGNAL WORD
Danger
GHS SYMBOLS
GHS08 Health hazard
GHS LABELING/HAZARD STATEMENTS
H304 May be fatal if swallowed and enters airways
H316 Causes mild skin irritation
GHS LABELING/PRECAUTIONARY STATEMENTS
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: MIXTURE
FEMA #: 3839 COE #: 10998
MF: C15H24
EC NO: 207-948-6
Additives: synthetic alpha tocopherol @ 0.10%
SYNONYM(S)
Contains 1,3,6,10-Dodecatetraene, 3,7,11-trimethyl-, (3E,6E)- [502-61-4]
2,6,10-Trimethyldodeca-2,6,9,11-tetraene
SECTION 4. FIRST-AID MEASURES

INHALATION EXPOSURE: Remove to fresh air. Give oxygen and call a physician.
EYE CONTACT: Flush with water for 15 min. Seek medical help if necessary.
SKIN CONTACT: Wash area well with water. Seek medical help if necessary.
INGESTION: Administer water and call a physician or poison control
center immediately. Do not induce vomiting.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
CO2, FOAM, DRY CHEMICAL
SPECIAL FIRE FIGHTING PROCEDURES
Use standard fire-fighting procedures.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None.

SECTION 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Standard absorbents can be used.
WASTE DISPOSAL METHOD: Incineration or sanitary landfill in
accordance with local, state, and federal regulations.

SECTION 7. HANDLING AND STORAGE

HANDLING
Observe all warnings and precautions listed for the product.
Use in accordance with good manufacturing and industrial
hygiene practices. Use product in a properly ventilated work
area. Do not eat, drink or smoke while handling product.

STORAGE
Packaging: Glass, Plastic, Aluminum or Phenolic Lined Steel
Store tightly sealed under inert gas below 0 deg. C

FIRE PROTECTION
Keep away from heat, sparks, and open flame.

SECTION 8. EXPOSURE CONTROLS/PERSOAL PROTECTION

VENTILATION: Local exhaust preferred. General ventilation required.
RESPIRATORY: Usually not required. Avoid inhaling concentrated vapors.
SKIN: Avoid skin contact. Use chemical resistant gloves.
EYES: Splash-proof safety glasses or goggles.
OTHER PROTECTIVE EQUIPMENT: Safety shower, eye wash.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
APPEARANCE: pale-medium yellow liquid
ODOR DESCRIPTION: citrus, herbaceous, lavender background
BOILING POINT: 261.11 C (EPI 4.0)
VAPOR PRESSURE : 0.02 mmHg (20C, BRI estimated)
VAPOR DENSITY (Air = 1): > 1
SPECIFIC GRAVITY @ 25C (water = 1): 0.8440:0.8790
SOLUBILITY IN WATER: Insoluble
FLASH POINT (CC): 230 F 110 C
LOGP : 7.100
SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
CONDITIONS TO AVOID: Presents no special reactivity hazard.
MATERIALS TO AVOID: Strong oxidizing agents
HAZARDOUS COMBUSTION PRODUCTS
CO, CO2, water

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS
Most likely route of entry is through the skin.
Full strength may be irritating to skin and eyes.

IRRITATION DATA
Eye Rabbit: no effects; 100% test material. Some redness of conjunctivae
at 1 and 24 hrs post-dosing, normal at 48 hrs. Iris and cornea not
affected by material. Result for beta-Farnesene.
LLNA: test material in 3:1 DEP:Ethanol did not result in a stimulation
index of 3 or greater. Considered to not have sensitizing activity. Tested
at 7.5%, 15%, and 30%. Result for beta-Farnesene.
Skin Guinea Pig: 24% highest non-irritating concentration. Vehicle
ethanol. Tested at 1%, 6%, 12%, and 24%. Result for beta-Farnesene.
Skin Human: 7.5% test material, irritation noted, no sensitization.

TOXICITY DATA
LD50 Oral (rat) > 5 ml/kg (approx. 4.2 g/kg). Result for beta-Farnesene.
THRESHOLD LIMIT VALUE (TLV): Not established
OSHA PERMISSIBLE EXPOSURE LIMIT (PEL): Not established
LISTED AS CARCINOGEN BY NTP, IARC, OR OSHA?: NO

SECTION 12. ECOLOGICAL INFORMATION

GENERAL
Prevent contamination of soil, ground- and surface water.

ECOTOXIC EFFECTS
EC50 Daphnia magna: 110 ug/l at 48 hours. 48 hour EC0: 11.7 ug/l. 24 hour

SECTION 13. DISPOSAL CONSIDERATION

WASTE DISPOSAL METHOD: Incineration or sanitary landfill in
accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Class</th>
<th>Pack Group</th>
<th>Sub. Risk</th>
<th>UN No.</th>
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<tbody>
<tr>
<td>Road(U.S.-DOT):</td>
<td>not regulated.</td>
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<tr>
<td>Air (IATA):</td>
<td>not regulated.</td>
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<tr>
<td>Sea (IMDG):</td>
<td>not regulated.</td>
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SECTION 15. REGULATORY INFORMATION

REVIEWS, STANDARDS, AND REGULATIONS
This chemical is listed on the following inventories:
TSCA AICS CHINA DSL ECL EINECS(207-948-6) PICCS
LISTED AS CARCINOGEN BY NTP, IARC, OR OSHA?: NO
SECTION 16. OTHER INFORMATION

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