

Product 81145 CYCLOBUTANATE (ELINCS)

Print Date 17.03.2011

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### ***;1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING***

Product name : 81145 CYCLOBUTANATE (ELINCS)

Use of the Substance/Mixture : Ingredient used in Flavour and/or Fragrance preparations

Company : IFF (GREAT BRITAIN) LTD.  
DUDDERY HILL  
HAVERHILL  
SuffolkCB9 8LG

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### ***2. HAZARDS IDENTIFICATION***

#### **GHS-Classification**

Chronic aquatic toxicity, Category 1

#### **GHS-Labeling**

Symbol(s) :



Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P273 Avoid release to the environment.

#### **Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Symbol(s) : N Dangerous for the environment

R-phrases : R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name of the substance : Butanoic acid, 3a,4,5,6,7,7a-hexahydro-4,7-methano-1H-indenyl ester  
Chemical characterization : esters of aliphatic acids  
Molecular formula : C<sub>14</sub> H<sub>20</sub> O<sub>2</sub>  
Molecular Weight : 220,31 g/mol  
CAS-No. : 113889-23-9

### 4. FIRST AID MEASURES

General advice : Take Risk and Safety phrases (section 15) into account.  
Inhalation : Remove from exposure site to fresh air and keep at rest. Obtain medical advice.  
Skin contact : Remove contaminated clothes. Wash thoroughly with water (and soap). Contact physician if symptoms persist.  
Eye contact : Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.  
Ingestion : Rinse mouth with water and obtain medical advice.

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbondioxide, dry chemical, foam.  
Extinguishing media which shall not be used for safety reasons : Do not use a direct waterjet on burning material.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Avoid inhalation and contact with skin and eyes. A self-contained breathing apparatus is recommended in case of a major spill.  
Environmental precautions : Keep away from drains, surface- and groundwater and soil.  
Methods for cleaning up : Clean up spillage promptly. Remove ignition sources. Provide adequate ventilation. Avoid excessive inhalation of vapours. Gross spillages should be contained by use of sand or inert powder and disposed of according to the local regulations.

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### 7. HANDLING AND STORAGE

#### Handling

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

Advice on protection against fire and explosion : Keep away from ignition sources and naked flame.

#### Storage

Requirements for storage areas and containers : Store in a cool, dry, ventilated area away from heat sources. Keep containers upright and tightly closed when not in use.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Engineering measures

Advice : Where appropriate, use closed systems to transfer and process this material. 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.

#### Personal protective equipment

Respiratory protection : 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.

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In addition, use general dilution ventilation of the work area to eliminate or reduce possible worker exposures.  
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 ;
- d) during emergencies; or
- e) if engineering controls and operational practices are not sufficient to reduce airborne concentrations below an established occupational exposure limit.

- Hand protection : Avoid skin contact. Use chemically resistant gloves.
- Eye protection : Use tight-fitting goggles, face shield or safety glasses with side shields if eye contact might occur.
- Hygiene measures : 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.  
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.
- Protective measures : 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

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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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

Physical state : liquid  
Colour : colorless to pale yellow  
Odour : Conforms to standard

#### Safety data

Flash point :  $> 99\text{ }^{\circ}\text{C}$   
Vapour pressure :  $< 0,01\text{ hPa}$   
Note: Calculated  
Relative density (20  $^{\circ}\text{C}$ ) : 1,0310 - 1,0370  
Partition coefficient: n-octanol/water : POW: 4,48  
Melting point :  $-20,00 - -19,00\text{ }^{\circ}\text{C}$   
Boiling point :  $275,00\text{ }^{\circ}\text{C}$

### 10. STABILITY AND REACTIVITY

Hazardous decomposition products : Carbon monoxide and unidentified organic compounds may be formed during combustion.

### 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity :  $\text{LD}_{50}\text{ (rat)} = > 2.500\text{ mg/kg}$   
Acute dermal toxicity :  $\text{LD}_{50}\text{ (rat)} = > 2.000\text{ mg/kg}$

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Skin irritation : Skin irritation (, rabbit, 72 h)  
Eye irritation : No eye irritation (, rabbit, 48 h, (undiluted))  
Sensitisation : Did not cause sensitization on laboratory animals. (, guinea pig, (undiluted))

### 12. ECOLOGICAL INFORMATION

#### Elimination information (persistence and degradability)

Biodegradability : Not readily biodegradable. (38 %, Directive 67/548/EEC Annex V, C.4.B.)

#### Ecotoxicity effects

Toxicity to fish : LC50(96 h, ) = 3,6 mg/l (OECD Test Guideline 203)  
Toxicity to daphnia and other aquatic invertebrates. : EC50(48 h, ) = 4,7 mg/l (OECD Test Guideline 202)  
Toxicity to algae : ErC50(72 h, ) = 0,39 mg/l (OECD Test Guideline 201)  
: EbC50(72 h, ) = 0,29 mg/l (OECD Test Guideline 201)

### 13. DISPOSAL CONSIDERATIONS

Product : Dispose of according to local regulations. Avoid disposing into drainage systems and into the environment.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. TRANSPORT INFORMATION

#### ADR

UN-Number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CYCLOBUTANATE)  
Labels : 9  
Packing group : III  
Environmentally hazardous : yes

#### IATA

UN-Number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CYCLOBUTANATE)

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Labels : 9  
Packing group : III  
Environmentally hazardous : yes

### IMDG

UN-Number : 3082  
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(CYCLOBUTANATE)  
Labels : 9  
Packing group : III  
Marine pollutant : yes

## 15. REGULATORY INFORMATION

Water contaminating class (Germany) : WGK 2 water endangering  
Classification according to Annex 3

## 16. OTHER INFORMATION

### S-phrases — EU Directives 67/548/EEC or 1999/45/EC—

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

### Full text of R-phrases referred to under sections 2 and 3

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Full text of H-Statements referred to under sections 2 and 3.

H410 Very toxic to aquatic life with long lasting effects.

### Further information

According to Regulation (EC) No. 1907/2006 the information in this safety data sheet is based on the properties of the material known to IFF at the time the data sheet was issued. The safety data sheet is intended to provide information for a health and safety assessment of the material and the circumstances, under which it is packaged, stored or applied in the workplace. For such a safety assessment International Flavors & Fragrances holds no responsibility. This document is not intended for quality assurance purposes.

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