



SAFETY DATA SHEET.

Version 1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Number A52360
EC-No 211-892-8

Manufacturer C & A Service Inc. as agents for
Citrus and Allied Essences, Ltd
4620 Mercedes Drive
Belcamp, MD 21017
(410) 273-9500

Product name GAMMA DECALACTONE (NATURAL)
Synonyms Decan-4-olide
2(3H)-Furanone, 5-hexyldihydro-
5-Hexyldihydrofuran-2(3H)-one
4-n-Hexyl-4-hydroxybutanoic acid lactone
4-Hydroxydecanoic acid, gamma-lactone

Pure substance/mixture Substance
Formula C10H18O2

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

Recommended Use No information available

1.3 Details of the supplier of the safety data sheet

For further information, please contact:

E-mail Address dchristopher@candaserviceinc.com

1.4 Emergency telephone number

Emergency telephone Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

| | |
|-----------------------------------|------------|
| Serious eye damage/eye irritation | Category 2 |
| Acute aquatic toxicity | Category 3 |
| Flammable liquids | Category 4 |

Classification according to EU Directives 67/548/EEC or 1999/45/EC
For the full text of the R-phrases mentioned in this Section, see Section 16

Symbol(s)
Not dangerous

2.2 Label elements



Signal Word

Warning

H227 - Combustible liquid

Precautionary Statements

P403 + P235 - Store in a well-ventilated place. Keep cool

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P280 - Wear protective gloves/ eye protection/ face protection

2.3 Other information

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1 Description of first-aid measures

| | |
|--------------|---|
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Inhalation | Move to fresh air. |

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Extinguishing media which shall not be used for safety reasons

No information available

5.2 Special hazards arising from the substance or mixture

Special Hazard
None

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

See Section 12 for additional Ecological Information

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end uses

Exposure scenario N/A

Other Guidelines N/A

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal protective equipment

| | |
|---------------------------------|--|
| Eye Protection | Tightly fitting safety goggles |
| Hand Protection | Protective gloves |
| Skin and body protection | Long sleeved clothing |
| Respiratory protection | No special protective equipment required |

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | | | |
|-----------------------|--------|-------------------|---------------------------|
| Physical state | liquid | Appearance | clear |
| Odor | Fruity | Color | Colorless to pale yellow. |

| <u>Property</u> | <u>Values</u> | <u>Methods</u> |
|--|----------------|--------------------------|
| pH | | No information available |
| Melting/freezing point | | No information available |
| Boiling point/boiling range | | FCC Method |
| Flash Point | 93 °C / 200 °F | Closed cup |
| Evaporation rate | | FCC Method |
| Flammability (solid, gas) | | No information available |
| Flammability Limits in Air | | No information available |
| upper flammability limit | | |
| lower flammability limit | | |
| Vapor pressure mm Hg 20°C | | No information available |
| Vapor density | | No information available |
| Relative density | | No information available |
| Specific Gravity @ 25C | 0.949 - 0.955 | FCC Method |
| Specific Gravity @ 20C | 0.952 - 0.958 | FCC Method |
| Refractive Index | 1.446 - 1.450 | FCC Method |
| Water solubility | | No information available |
| Partition coefficient: n-octanol/water | | No information available |
| Autoignition temperature | | No information available |
| Decomposition temperature | | No information available |
| Viscosity, dynamic | | No information available |

| | |
|-----------------------------|--------------------------|
| Explosive properties | No information available |
| Oxidizing Properties | No information available |

9.2 Other information

| | |
|-------------------------|--------------------------|
| Molecular Weight | No information available |
|-------------------------|--------------------------|

10. STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

10.4 Conditions to Avoid

Heat, flames and sparks

10.5 Incompatible Materials

No materials to be especially mentioned

10.6 Hazardous Decomposition Products

None under normal use conditions

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation There is no data available for this product

Eye contact There is no data available for this product

Skin contact There is no data available for this product

Ingestion There is no data available for this product

Acute toxicity 100% of the mixture consists of ingredient(s) of unknown toxicity

Oral 99,999.00

Dermal 99,999.00

Gas 99,999.00

Mist 99,999.00

Vapor 99,999.00

Skin corrosion/irritation No information available

Eye damage/irritation No information available

Sensitization No information available

Germ Cell Mutagenicity No information available

Carcinogenicity No information available

Specific target organ systemic toxicity (single exposure) No information available

Specific target organ systemic toxicity (repeated exposure) No information available

Target Organ Effects No information available

Aspiration hazard No information available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

| | |
|----------------------------|---|
| Ecotoxicity effects | Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants |
|----------------------------|---|

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment**12.6 Other adverse effects****13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

| | |
|--|---|
| Waste from residues / unused products | Dispose of in accordance with local regulations |
|--|---|

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

14. TRANSPORT INFORMATION

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|-------------------|---------------|
| IMDG / IMO | Not regulated |
|-------------------|---------------|

| | |
|------------------|---------------|
| ICAO/IATA | Not regulated |
|------------------|---------------|

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
WGK Classification**International Inventories**

All of the components in the product are on the following Inventory lists: No information available, United States of America (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (ECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

| | |
|----------------------|----------|
| TSCA | Complies |
| EINECS/ELINCS | Complies |
| DSL/NDSL | Complies |
| PICCS | Complies |

| | |
|-------|----------|
| ENCS | Complies |
| IECSC | Complies |
| AICS | Complies |
| KECL | Complies |

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

15.2 Chemical Safety Assessment

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| 16. OTHER INFORMATION |
|------------------------------|

Revision Date 25-Sep-2013

Revision Note not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.