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Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation") and REGULATION (EC) No 1272/2008 (CLP)

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Natural gamma Nonalactone
Trade Name: Natural gamma Nonalactone
Chemical formula: C₉ H₁₆O₂
Product type: Liquid
CAS number: 104-61-0
EC number: 203-219-1
Product code: 81095

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

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Aromor Flavors and Fragrances
560 Sylvan Avenue, Englewood Cliffs, NJ 07632
Tel: 201-503-1662, Fax: 201-503-1663

E-mail address of person responsible for this SDS: sales@aromor-usa.com

1.4 Emergency telephone number

Emergency telephone number (including hours of operation): N/A

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP/GHS)

Product name	GHS Classification
Natural gamma Nonalactone	Not a dangerous substance according to GHS.

Classification according to Directive 67/548/EEC (DSD) or 1999/45/EC

Product name	EU Classification
Natural gamma Nonalactone	Not a hazardous substance or mixture according to EC-directives 7/548/EEC or 1999/45/EC.

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2.2 Label elements

Not required

2.3 Other hazard

N/A

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:

Product/ Ingredient name	Identifiers	%	EU Classification	GHS Classification
(±)-4-n-Pentylbutyrolactone	CAS number:104-61-0 EC number:203-219-1	100	-	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.
See section 16 for the full text of the H-statements and R-phrases declared above.

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

Eyes contact: In case of contact with eyes rinse opened eyes under running water for at least 15 minutes and seek medical advice.

Skin contact: In case of contact with skin wash off immediately with plenty of water for at least 15 minutes, and seek medical advice.

Inhalation: Remove the casualty into fresh air and keep him calm. Apply artificial respiration if necessary and get medical attention immediately.

Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If victim is conscious give water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: May be harmful by inhalation. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin contact: May cause skin irritation. May be harmful by skin absorption. May cause allergic skin reaction.

Eyes contact: May cause eye irritation.

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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote, medical staff contacts Poisons Information Center. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Special treatments: No specific treatment.

Section 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: For small fires, use dry chemical, carbon dioxide, alcohol-resistant foam. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray.

Not suitable: Solid streams of water may be ineffective.

5.2 Special hazards arising from the substance or mixture

Under fire emits irritating and toxic fumes.

5.3 Advice for firefighters

Special protective equipment for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode.

Remark: Move containers from fire area if possible to do so without risk.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing. Avoid contact with skin eyes and inhalation of vapors. Remove all sources of ignition. Ventilate area of spill.

6.2 Environmental precautions

Do not let this chemical enter the environment. Keep away from drains, surface and ground water.

6.3 Methods and materials for containment and cleaning up

Turn off or remove sources of ignition. Provide adequate ventilation. Absorb onto sand, vermiculite or any other non-combustible absorbent and collect for later disposal.

6.4 Reference to other sections

See Section 13 for additional waste treatment information

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Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling: Avoid contact with eyes, skin and clothing. Do not permit eating/drinking/smoking near the material. Avoid prolonged or repeated exposure.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Keep containers tightly closed, in dry, cool and well-ventilated place.. Keep away from heat, sparks and open flame. Do not store together with strong oxidizing agents.

7.3 Specific end use(s): N/A

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values: N/A

Derived effects levels:

Recommended occupational and consumer exposure limit values (following from the preformed CSA):
N/A

8.2 Exposure controls

Engineering Measures

Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Person Protective measures

Respiratory protection: Apply local ventilation where appropriate. Wear appropriate respirator when ventilation is inadequate.

Eye/face protection: Wear chemical safety goggles.

Skin protection: Use chemically resistant gloves as needed.

Environmental exposure controls: N/A.

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Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Colorless or pale yellow liquid
Odour: Coconut and fruity
Odour threshold: N/A
pH: N/A
Melting point/Freezing point: N/A
Initial boiling point/boiling range: 121-122°C
Flash point: 138°C
Evaporation rate: N/A
Flammability: N/A
Upper/lower flammability or explosive limits: N/A
Vapor pressure: N/A
Vapor density (air=1): N/A
Relative Density: 0.950-0.970 g/cm³
Specific gravity (water=1): N/A
Solubility(ies): Soluble in ethanol 95% in all proportions
Partition coefficient Octanol/Water: N/A
Auto-ignition temperature: N/A
Decomposition temperature: N/A
Viscosity: N/A
Explosive properties: N/A
Oxidizing properties: N/A

9.2 Other information:

Refractive index: 1.440-1.480 at 20°C
Optical Rotation: N/A
Molecular Weight: 156.22gr/mole

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable under normal handling and storage conditions described in section 7.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Keep away from heat, sparks and open flame.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous Decomposition products

Not available

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Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: N/A

Skin corrosion/irritation: N/A

Serious eye damage/irritation: N/A

Respiratory or skin sensitization: N/A

Germ cell mutagenicity: N/A

Carcinogenicity: Not listed by NTP, IARC or OSHA.

Reproductive toxicity: N/A

Specific target organ toxicity (single exposure): N/A

Specific target organ toxicity (repeated exposure): N/A

Aspiration hazard: N/A

Potential health effects

Inhalation: May be harmful by inhalation. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin contact: May cause skin irritation. May be harmful by skin absorption. May cause allergic skin reaction.

Eyes contact: May cause eye irritation.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Not available

12.2 Persistence and Degradability

Not available

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available

12.5 Results of PBT and vPvB assessment

Not available

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12.6 Other adverse effects

Not available

Section 13: DISPOSAL CONSIDERATIONS

Methods of disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Hazardous waste: N/A

Section 14: TRANSPORT INFORMATION

International transport regulations

14.1 Un number:

ADR/RID: -

IMDG: -

IATA: -

14.2 Proper shipping name:

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packing group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazard

ADR/RID: -

IMDG: -

IATA: -

14.6 Special precautions for user

Not available

Additional information

ADR/RID: -

IMDG: -

IATA: -

14.7 Transport to bulk according to Annex II of MARPOL 79/78 and the IBC Code

Not applicable

Section 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Directives 67/548/EEC and 1999/45/EC (including amendments)

EU Regulation(EC) No.1907/2006 (REACH), No 1272/2008 (CLP)

15.2 Chemical safety assessment

No data available

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Section 16: OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3:

None

Safety phrases:

None

Full text of Hazards Statements referred to in sections 2 and 3:

None

Precautionary Statements:

None

Training advice: Before using/handling the product one must read carefully present MSDS.

Recommended restriction: N/A

Key Legend Information:

ACGIH- American Conference of Governmental Industrial Hygienists

OSHA- Occupational Safety and Health Administration

NTP- National Toxicology program

IARC- International Agency for Research on Cancer

ND- Not Determined

N/A- Not available

R-phrases- Risk phrases

S-phrases- Safety phrases

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To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.