1. IDENTIFICATION

Product Description: SANDALORE®
CAS # 65113-99-7
Other means of identification
Vigon Item # 500931
Recommended use Concentrated aromatic ingredient which may be used fragrance compounds according to legal and IFRA guidelines.
Recommended restrictions For Manufacturing Use Only

Company
Vigon International, Inc.
127 Airport Road
E. Stroudsburg, PA 18301
For information call: 570-476-6300
Web Site: www.vigon.com

2. HAZARD(S) IDENTIFICATION

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 3
Serious eye damage/eye irritation Category 2A
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2
Hazardous to the aquatic environment, long-term hazard Category 2

Label elements

Signal word Warning
SAFETY DATA SHEET

500931 SANDALORE®

Revision Date: 11-28-2017
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Version # 02
Print Date: 11-28-2017

Hazard statement
Causes mild skin irritation. Causes serious eye irritation. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement
Prevention
Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection.

Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Collect spillage.

Storage
Store away from incompatible materials.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HINOC)
None known.

Supplemental information
100% of the mixture consists of component(s) of unknown acute dermal toxicity. 100% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5- (2,2,3-TRIMETHYL - 3 - CYCLOPENTENYL) -3-METHYL PENTAN-2-OL</td>
<td>ALPHA, BETA,2,2,3- PENTAMETHYL CYCLOPENT-3-EN-1 -BUTANOL 3- methyl-5- (2,2,3-trimethyl- 1-cyclopent-3-eny1)pentan- 2-ol pentamethyl cyclopent-3-ene butanol</td>
<td>65113-99-7</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Inhalation
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin contact
Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

Eye contact
Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion
Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

Most important symptoms/effects, acute and delayed
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation.

Indication of immediate medical attention and special treatment needed
Not available.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
# SAFETY DATA SHEET

## 5. FIRE-FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Water spray, fog, CO2, dry chemical, or alcohol resistant foam.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>Do not use a solid water stream as it may scatter and spread fire.</td>
</tr>
<tr>
<td>Specific hazards arising from the chemical</td>
<td>Fire may produce irritating, corrosive and/or toxic gases.</td>
</tr>
<tr>
<td>Special protective equipment and precautions for firefighters</td>
<td>Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.</td>
</tr>
<tr>
<td>Fire fighting equipment/instructions</td>
<td>In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.</td>
</tr>
<tr>
<td>Specific methods</td>
<td>Use water spray to cool unopened containers.</td>
</tr>
<tr>
<td>General fire hazards</td>
<td>Static charges generated by emptying package in or near flammable vapor may cause flash fire.</td>
</tr>
</tbody>
</table>

## 6. ACCIDENTAL RELEASE MEASURES

| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Eliminate all sources of ignition. |
| Methods and materials for containment and cleaning up | Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. The product is immiscible with water and will spread on the water surface. |
| Large Spills: | Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers. |
| Small Spills: | Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the environment. Retain and dispose of contaminated wash water. Contact local authorities in case of spillage to drain/aquatic environment. |

## 7. HANDLING AND STORAGE

| Precautions for safe handling | Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling. |
SAFETY DATA SHEET

500931 SANDALORE®

Conditions for safe storage, including any incompatibilities
Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits
This substance has no PEL, TLV, or other recommended exposure limit.

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Use explosion-proof ventilation equipment to stay below exposure limits. Adequate ventilation should be provided so that exposure limits are not exceeded.

Individual protection measures, such as personal protective equipment
Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin protection
Chemical resistant gloves.

Hand protection
Not available.

Other
Not available.

Respiratory protection
Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Refer to Spec Sheet

Physical state
Liquid.

Form
Liquid.

Color
Refer to Spec Sheet

Odor
Characteristic.

Odor threshold
Not available.

pH
Not available.

Melting point/freezing point
< -58 °F (< -50 °C)

Initial boiling point and boiling range
203 °F (95 °C) at 0.5 mmHg

Flash point
> 200.0 °F (> 93.3 °C) Closed Cup

Evaporation rate
Not available.

Flammability (solid, gas)
Not applicable.

Upper/lower flammability or explosive limits
Flammability limit - lower (%)
Not available.

Flammability limit - upper (%)
Not available.

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.
10. STABILITY AND REACTIVITY

Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability  Material is stable under normal conditions.
Possibility of hazardous reactions  No dangerous reaction known under conditions of normal use.
Conditions to avoid  Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials  Strong oxidizing agents.
Hazardous decomposition products  No hazardous decomposition products if stored and handled as indicated.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation  No adverse effects due to inhalation are expected.
Skin contact  Causes mild skin irritation.
Eye contact  Causes serious eye irritation. Causes mild eye irritation.
Ingestion  Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation.

Information on toxicological effects

Acute toxicity  Not known.
5- (2,2,3-TRIMETHYL - 3 - CYCLOPENTENYL) -3-METHYL PENTAN-2-OL (CAS 65113-99-7)

LD50 Rat
Oral
6700 mg/kg

Causes mild skin irritation.
Species: guinea pig
No skin irritation

Causes serious eye irritation.
Species: rabbit
No eye irritation

Not a respiratory sensitizer.

Skin corrosion/irritation
Causes mild skin irritation.
Species: guinea pig
No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.
Species: rabbit
No eye irritation

Respiratory or skin sensitization
Respiratory sensitization
Not a respiratory sensitizer.

Skin sensitization
HRRIPT Human
Result: Not sensitizing
at 10 % in Dimethyl phthalate
Maximisation Test guinea pig
Result: Not sensitizing

Phototoxicity guinea pig
Result:negative

Germ cell mutagenicity
Genotoxicity in vitro : Ames test
negative
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)

Chromosome aberration test in vitro
Human lymphocytes
negative
Method: Mutagenicity (in vitro mammalian cytogenetic test)

in vitro assay
negative
Method: In vitro gene mutation study in mammalian cells

Carcinogenicity
IARC Monographs. Overall Evaluation of Carcinogenicity
Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not available.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.
12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Toxic to aquatic life with long lasting effects.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Species</td>
</tr>
<tr>
<td>Acute</td>
<td>Pseudokirchnerella subcapitata</td>
</tr>
<tr>
<td>Other</td>
<td>EC50, &gt; 17 mg/l, 72 hours Method: OECD Test</td>
</tr>
<tr>
<td></td>
<td>Guideline 201</td>
</tr>
<tr>
<td></td>
<td>&gt; 17 mg/l, 96 hours Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>8.2 mg/l, 96 hours Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>7.1 mg/l, 72 hours Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>Aquatic</td>
<td>Water flea (Daphnia magna)</td>
</tr>
<tr>
<td>Acute</td>
<td>1.1 mg/l, 48 hours Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Crustacea</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>Pimephales promelas</td>
</tr>
<tr>
<td></td>
<td>2.3 mg/l, 96 hours Method: OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

Persistence and degradability: Biodegradability: Result: Readily biodegradable 78% Method: OECD Test Guideline 301 F

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: Not established.

Waste from residues / unused products: Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
14. TRANSPORT INFORMATION

ADN

<table>
<thead>
<tr>
<th>UN number</th>
<th>3082</th>
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<tbody>
<tr>
<td>UN proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (5- (2,2,3-TRIMETHYL - 3 - CYCLOPENTENYL) -3-METHYL PENTAN-2-OL)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
</tr>
<tr>
<td>Subsidiary class(es)</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes</td>
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<tr>
<td>Labels required</td>
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ADR

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<tr>
<td>Subsidiary class(es)</td>
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<tr>
<td>Packing group</td>
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<tr>
<td>Environmental hazards</td>
<td>Yes</td>
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<td>Labels required</td>
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RID

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<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (5- (2,2,3-TRIMETHYL - 3 - CYCLOPENTENYL) -3-METHYL PENTAN-2-OL)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>9</td>
</tr>
<tr>
<td>Subsidiary class(es)</td>
<td>-</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental Hazards</td>
<td>Yes</td>
</tr>
<tr>
<td>Labels required</td>
<td>9</td>
</tr>
</tbody>
</table>

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

DOT

<table>
<thead>
<tr>
<th>UN number</th>
<th>3082</th>
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</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (5- (2,2,3-TRIMETHYL - 3 - CYCLOPENTENYL) -3-METHYL PENTAN-2-OL)</td>
</tr>
<tr>
<td>Hazard class</td>
<td>9</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Yes</td>
</tr>
<tr>
<td>Packaging exceptions</td>
<td>155</td>
</tr>
<tr>
<td>Packaging bulk</td>
<td>241</td>
</tr>
<tr>
<td>Labels required</td>
<td>9</td>
</tr>
</tbody>
</table>
DOT
NON-BULK
   Not regulated as dangerous goods.
IATA
   Not regulated as dangerous goods.
IMDG
   UN number 3082
   UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (5- (2,2,3-TRIMETHYL - 3 - CYCLOPENTENYL) -3-METHYL PENTAN-2-OL)
   Transport hazard class(es) 9
   Subsidiary class(es) -
   Packing group III
   Environmental hazards
      Marine pollutant Yes
   Labels required 9
   Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. REGULATORY INFORMATION
US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.
SARA 304 Emergency release notification
Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

Classified hazard
Serious eye damage or eye irritation

categories

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
California Proposition 65
California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Not listed.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Toxic Chemical Substances (TCS)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Disclaimer

Vigon International, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Vigon International, Inc. has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its’ safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon’s knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.