1. Identification

1.1. Product identifier

Product Name: Verigene® Amplification Tray

Alternate Names:
- 20-011-020 Verigene® RV+ Amplification Tray
- 20-011-022 Verigene® CDF Amplification Tray
- 20-011-023 Verigene® Enteric Amplification Tray
- 20-011-024 Verigene® RP Amplification Tray
- 20-012-020 Verigene® Respiratory Virus+ (RV+) Amplification Reagent Kit
- 20-012-022 Verigene® C. difficile (CDF) Amplification Reagent Kit
- 20-012-023 Verigene® Enteric Panel (EP) Amplification Reagent Kit
- 20-012-024 Verigene® Respiratory Pathogens Flex (RP Flex) Amplification Reagent Kit

The amplification tray is a closed system with 8 compartments, each either empty or carrying a different solution.

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

Intended use: See Technical Data Sheet.
Application Method: See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name: Nanosphere, Inc.
4088 Commercial Ave.
Northbrook, IL 60062

Contact Information
PHONE/FAX: (847) 400-9000 / (847) 400-9199
e-mail address: technicalsupport@nanosphere.us

Emergency Telephone Number
In case of emergency contact: CHEMTREC- 24 Hr. Info
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

In Country/Regional Emergency Contact :
South Africa : 0-800-983-611
Argentina (Buenos Aires) : +(54)-1159839431
Brazil (Rio De Janeiro) : +(55)-2139581449
Chile (Santiago) : +(56)-225814934
Colombia : 01800-7102151
Mexico : 01-800-681-9531
Peru (Lima) : +(51)-17071295
Bahrain : +(973)-16199372
China : 4001-204937
Hong Kong : 800-968-793
India : 000-800-100-7141
Israel (Tel Aviv) : +(972)-37630639
Japan (Tokyo) : +81-345209637
Russia : 8-800-100-6346
Saudi Arabia : +(966)-8111095861
2. Hazard(s) identification

2.1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification according to Directive 1999/45/EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution 1</td>
<td>/</td>
</tr>
<tr>
<td>Solution 2</td>
<td>/</td>
</tr>
<tr>
<td>Solution 3</td>
<td>/</td>
</tr>
<tr>
<td>Solution 4</td>
<td>/</td>
</tr>
<tr>
<td>Solution 5</td>
<td>/</td>
</tr>
<tr>
<td>Solution 6/DNA Decontamination Reagent</td>
<td>Xi; H315, H320</td>
</tr>
<tr>
<td>Solution 7</td>
<td>/</td>
</tr>
<tr>
<td>Solution 8</td>
<td>/</td>
</tr>
<tr>
<td>Solution 9</td>
<td>/</td>
</tr>
<tr>
<td>Solution 10</td>
<td>/</td>
</tr>
<tr>
<td>Solution 11</td>
<td>/</td>
</tr>
<tr>
<td>Solution 12</td>
<td>/</td>
</tr>
</tbody>
</table>

2.2. Label elements

Note: The CHEMTREC phone number(s) is only for emergencies involving spills, leaks, fire, exposure or accident. Please direct all other inquiries to our local phone number.
2.2 Other Hazards: None

2.3 General: Obtain special instructions before use. Use personal protective equipment as required. If exposed or concerned, get medical attention.

H315 Causes skin irritation
H319 Causes serious eye irritation

[Prevention]:
P280 Wear protective gloves/protective clothing/eye protection/face protection

[Response]:
P337 + 313 If eye irritation persists: get medical advice/attention
P305 + 351 + 338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do-continue rinsing.

[Storage]:
[Disposal]:

2.4. Potential Health Effects

**INHALATION:** Inhalation of mists or sprays from this material may cause mild to moderate respiratory irritation, coughing, burning of the respiratory tract, shortness of breath, and difficulty breathing (depending on duration and concentration of exposure). Symptoms of exposure should be alleviated upon removal to fresh air. Chronic inhalation of mists or sprays may cause persistent respiratory irritation or reduced lung capacity and may cause chronic cough and breathing difficulty.

**CONTACT WITH SKIN or EYES:** Mists or sprays of this product may moderately irritate the eyes. Symptoms of eye overexposure may include redness and tearing. This product may irritate contaminated skin (especially in the event of prolonged overexposures). Symptoms of skin overexposure may include redness and itching.

**SKIN ABSORPTION:** Skin absorption is not a significant route of overexposure for any component of this mixture.

**INGESTION:** Ingestion is not a significant route of occupational overexposure. This material is moderately toxic by ingestion, leading to possible burns or irritation of the mouth, throat, esophagus and digestive system.

**INJECTION:** Depending on the dose of injection, this product may cause redness at the site of injection.

**HEALTH EFFECTS OR RISKS FROM EXPOSURE:**

**ACUTE:** This material product may cause burning or reddening of the point of contact upon acute exposure. Inhalation of mists or sprays may cause mild to moderate irritation to respiratory system (depending on the duration and concentration of exposure). If the product is splashed into the eye, pain or irritation may result. Ingestion of this product will cause irritation of the digestive system, nausea and vomiting.

**CHRONIC:** Repeated skin contact may cause dermatitis (dry, redskin). Chronic inhalation of mists or sprays may cause reduction in lung capacity.

**TARGET ORGANS:** ACUTE: Skin, eyes, respiratory system. CHRONIC: Skin, respiratory system.
3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>CASnr.</th>
<th>ECnr.</th>
<th>Registration nr.</th>
<th>Concentration (w/w)</th>
<th>Classification</th>
<th>OSHA PEL-TWA mg/m3</th>
<th>OSHA PEL-STEL mg/m3</th>
<th>ACGIH TWA (STEL) mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkali hydroxide (in DNA Decontamination Reagent)</td>
<td>Proprietary</td>
<td>/</td>
<td>&lt; 1%</td>
<td>C; H302</td>
<td>2</td>
<td>/</td>
<td>/ (2)</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1. Description of first aid measures

General
Consult a physician. Show this safety data sheet to the doctor in attendance.

Inhalation
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Eyes
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

Ingestion
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Overview
Most important symptoms and effects, both acute and delayed:
- spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting.
- Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Eyes
Causes serious eye damage.

Skin
Causes mild skin irritation.

Ingestion
May be harmful if swallowed.

Indication of any immediate medical attention and special treatment needed: No data available
5. Fire-fighting measures

5.1. Extinguishing media
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture
If involved in a fire, this material may decompose and produce irritating vapors and toxic gases (e.g., sodium oxides).

5.3. Advice for fire-fighters
Incipient fire responders should wear eye protection.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2. Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections
For disposal see section 13.

7. Handling and storage

7.1. Precautions for safe handling
Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
See section 2 for further details. - [Storage]:

7.3. Specific end use(s)
No data available.
8. Exposure controls and personal protection

8.1. Control parameters: Components with workplace control parameters: no data available

8.2. Exposure controls

Respiratory Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eyes Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Engineering Controls None normally required.

Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance Clear liquid
Odor Slightly fragrant odor
Odor threshold ODOR THRESHOLD: Slightly fragrant.
pH pH: 11-12
Melting point / freezing point ~0°C (32°F)
Initial boiling point and boiling range ~100°C (212°F)
Flash Point N/A
Evaporation rate (Water = 1) (water = 1): ~1
Flammability (solid, gas) N/A
Upper/lower flammability or explosive limits N/A
Vapor pressure (Air=1) Not established.
Vapor Density Not established.
Specific Gravity 1 gm/mL
Solubility in Water Soluble
Coefficient water/oil distribution: Not established.
Auto-ignition temperature: N/A
Decomposition temperature: Not established.
Viscosity (cSt): Not established.

9.2. Other information
HOW TO DETECT THIS SUBSTANCE (warning properties): The odor may be a characteristic to distinguish a spill of this product.

10. Stability and reactivity

10.1. Reactivity
No data available

10.2. Chemical stability
No data available.

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid
If exposed to extremely high temperatures, thermal decomposition may generate irritating fumes and toxic gases (e.g., sodium oxides).

10.5. Incompatible materials
This product is incompatible with aluminum, and other metals, acid solutions and acidic chemicals, and any other material susceptible to a caustic, corrosive solution.

10.6. Hazardous decomposition products
Other decomposition products - no data available

11. Toxicological information

ALKALI HYDROXIDE (in DNA Decontamination Reagent)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>No data available</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>No data available</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>---</td>
<td>No data available</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td>Skin - rabbit - Causes severe burns. - 24 h</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>---</td>
<td>No data available</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>---</td>
<td>No data available</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>---</td>
<td>No data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>---</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Carcinogenicity | --- | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity | --- | No data available
STOT-single exposure | --- | No data available
STOT-repeated exposure | --- | No data available
Aspiration hazard | --- | No data available

Potential health effects:

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Ingestion:** May be harmful if swallowed. Causes burns.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes** Causes eye burns.

**Signs and Symptoms of Exposure:** Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

### 12. Ecological information

**12.1. Toxicity**
No data available

**12.2. Persistence and degradability**
No data available

**12.3. Bioaccumulative potential**
No data available

**12.4. Mobility in soil**
No data available.

**12.5. Results of PBT and vPvB assessment**
No data available

**12.6. Other adverse effects**
No data available.
13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

US: None of the components in the Amplification Tray are hazardous as defined by the US Department of Transport or IATA.

EU: No restrictions apply due to the low volumes.

15. Regulatory information

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.
U.S. SARA REPORTING REQUIREMENTS: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.
U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: No; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Alkali hydroxide = 1000 lb (454 kg)

U.S. TSCA INVENTORY STATUS: Components of this product are listed on the TSCA Inventory.

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Components of this product are not on the California Proposition 65 lists.

15.2 Chemical Safety Assessment
No data available
The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P337 If eye irritation persists:
P313 Get medical advice/attention
P305 If in the eyes:
P351 Rinse cautiously with water several minutes
P338 Remove contact lenses if present and easy to do. Continue rinsing

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance 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. It remains the user’s own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

End of Document