

# Material Safety Data Sheet

United States  
English

## Section 1. Chemical product and company identification

|                             |  |               |                |
|-----------------------------|--|---------------|----------------|
| Product name                | <b>PhytoPure Resin; part of 'Nucleon PhytoPure,<br/>50 x 1.0 g'</b>                |               |                |
| Catalogue Number            | <b>RPN8511</b>   |               |                |
| Material uses               | Industrial applications: Analytical chemistry. Research.                           |               |                |
| Product type                | Liquid.  |               |                |
| Validation date             | 13 December 2006   |               |                |
| Print date                  | 13 December 2006   |               |                |
| Supplier                    | GE Healthcare Bio-Sciences AB<br>SE-751 84 Uppsala<br>Sweden<br>+46 (0)18 612 0000 |               |                |
| <u>In case of emergency</u> | US   | ChemTrec (US) | 1-800-424-9300 |
|                             | Canada   | ChemTrec (US) | 1-703-527-3887 |

## 2. Hazards identification

|   |  |
|---|--|
| Physical state                          | Liquid.  |
| Odor                                    | Characteristic.  |
| OSHA/HCS status                         | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  |
| Emergency overview                      | <p>DANGER !</p> <p>CAUSES SEVERE RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.</p> <p>Severely corrosive to the eyes, skin and respiratory system. Causes severe burns. Harmful if swallowed. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Contains material that may cause target organ damage, based on animal data. Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.</p> |
| Routes of entry                         | Dermal contact. Eye contact. Inhalation. Ingestion.  |
| <u>Potential acute health effects</u>   |  |
| Eyes                                    | Severely corrosive to the eyes. Causes severe burns.   |
| Skin                                    | Severely corrosive to the skin. Causes severe burns.   |
| Inhalation                              | Severely corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.   |
| Ingestion                               | Harmful if swallowed. May cause burns to mouth, throat and stomach.  |
| <u>Potential chronic health effects</u> |  |
| Chronic effects                         | Contains material that may cause target organ damage, based on animal data.  |
| Carcinogenicity                         | Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.  |
| Mutagenicity                            | No known significant effects or critical hazards.  |
| Teratogenicity                          | No known significant effects or critical hazards.  |
| Developmental effects                   | No known significant effects or critical hazards.  |
| Fertility effects                       | No known significant effects or critical hazards.  |
| Target organs                           | Contains material which causes damage to the following organs: lungs, upper respiratory tract, skin, eye, lens or cornea.<br>Contains material which may cause damage to the following organs: blood, kidneys.   |
| Inhalation                              | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing  |



|   |  |
|---|--|
| <b>Ingestion</b>                                      | Adverse symptoms may include the following:<br>stomach pains   |
| <b>Skin</b>   | Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur   |
| <b>Eyes</b>   | Adverse symptoms may include the following:<br>pain<br>watering<br>redness   |
| <b>Medical conditions aggravated by over-exposure</b> | Pre-existing digestive disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product. |

See toxicological information (section 11)

### 3. Composition/information on ingredients

| <u>Name</u>         | <u>CAS number</u> | <u>% by weight</u> | <u>Exposure limits</u> |
|---------------------|-------------------|--------------------|------------------------|
| Potassium hydroxide | 1310-58-3         | <20                |                        |
| potassium nitrate   | 7757-79-1         | <20                |                        |

### Section 4. First aid measures

|                                   |   |
|-----------------------------------|---|
| <b>Eye contact</b>                | Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.   |
| <b>Skin contact</b>               | Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.   |
| <b>Inhalation</b>                 | Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| <b>Ingestion</b>                  | Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.                          |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing or wear gloves.   |

### Section 5. Fire fighting measures

|   |   |
|---|---|
| <b>Flammability of the product</b>                    | In a fire or if heated, a pressure increase will occur and the container may burst.   |
| <b><u>Extinguishing media</u></b>                     |   |
| <b>Suitable</b>                                       | Use an extinguishing agent suitable for the surrounding fire.   |
| <b>Not suitable</b>                                   | None known.   |
| <b>Special exposure hazards</b>                       | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |

### Section 6. Accidental release measures

|                                  |  |
|----------------------------------|--|
| <b>Personal precautions</b>      | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). |
| <b>Environmental precautions</b> | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).  |



|                                |   |
|--------------------------------|---|
| <b>Methods for cleaning up</b> | Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. |
| <b>Small spill</b>             | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.   |

## Section 7. Handling and storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| <b>Storage</b>  | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.   |

## Section 8. Exposure controls, personal protection

|  |   |
|--|---|
| <b>Product name</b>                      | <b>Exposure limits</b>  |
| Potassium hydroxide                      | <b>ACGIH TLV (United States, 1/2006).</b><br>CEIL: 2 mg/m <sup>3</sup><br><b>NIOSH REL (United States, 12/2001).</b><br>TWA: 2 mg/m <sup>3</sup> , 0 times per shift, 10 hour(s).<br><b>OSHA PEL 1989 (United States, 3/1989).</b><br>CEIL: 2 mg/m <sup>3</sup>   |
| <b>Recommended monitoring procedures</b> | If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.  |
| <b>Engineering measures</b>              | Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.  |
| <b>Hygiene measures</b>                  | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| <b>Personal protection</b>               |   |
| <b>Respiratory</b>                       | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.   |
| <b>Hands</b>                             | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.   |
| <b>Eyes</b>                              | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.   |
| <b>Skin</b>                              | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.   |
| <b>Environmental exposure controls</b>   | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.  |

## Section 9. Physical and chemical properties

|                       |  |
|-----------------------|--|
| <b>Physical state</b> | Liquid.  |
| <b>Color</b>          | Orange.  |
| <b>Odor</b>           | Characteristic.  |
| <b>pH</b>             | 7 [Conc. (% w/w): 100%]  |
| <b>Volatility</b>     | 0% (v/v)   |
| <b>VOC</b>            | 0 (g/l).   |
| <b>Solubility</b>     | Easily soluble in the following materials: cold water and hot water. |



## Section 10. Stability and reactivity

|                                 |  |
|---------------------------------|--|
| <b>Stability</b>                | The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.  |
| <b>Materials to avoid</b>       | No specific data.  |
| <b>Hazardous polymerization</b> | Will not occur.  |
| <b>Conditions of reactivity</b> | Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.<br>Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. |

## Section 11. Toxicological information

### Acute toxicity

| Product/ingredient name   | Result         | Species | Dose       | Exposure |
|---------------------------|----------------|---------|------------|----------|
| Potassium hydroxide       | LD50 Oral      | Rat     | 273 mg/kg  | -        |
| potassium nitrate         | LD50 Oral      | Rat     | 3540 mg/kg | -        |
|                           | LD50 Oral      | Rat     | 3750 mg/kg | -        |
|                           | TDLo Oral      | Rat     | 10 mg/kg   | -        |
| <b>Conclusion/Summary</b> | Not available. |         |            |          |

### Classification

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|-------------------------|-------|------|-----|-------|-----|------|
| potassium nitrate       | -     | 2A   | -   | -     | -   | -    |

## Section 12. Ecological information

|                              |   |
|------------------------------|---|
| <b>Environmental effects</b> | No known significant effects or critical hazards. |
|------------------------------|---|

### Aquatic ecotoxicity

| Product/ingredient name   | Test           | Result              | Species | Exposure |
|---------------------------|----------------|---------------------|---------|----------|
| potassium nitrate         | Mortality      | Acute LC50 200 mg/L | Fish    | 96 hours |
|                           | Mortality      | Acute LC50 191 mg/L | Fish    | 96 hours |
|                           | Mortality      | Acute LC50 188 mg/L | Fish    | 96 hours |
|                           | Mortality      | Acute LC50 180 mg/L | Fish    | 96 hours |
| <b>Conclusion/Summary</b> | Not available. |                     |         |          |

### Biodegradability

|                           |                |
|---------------------------|----------------|
| <b>Conclusion/Summary</b> | Not available. |
|---------------------------|----------------|

|                              |   |
|------------------------------|---|
| <b>Other adverse effects</b> | No known significant effects or critical hazards. |
|------------------------------|---|

## Section 13. Disposal considerations

|                       |   |
|-----------------------|---|
| <b>Waste disposal</b> | The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |
|-----------------------|---|

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

### International transport regulations

Not classified.



## Section 15. Regulatory information

### HCS Classification

Corrosive material  
Carcinogen  
Target organ effects

### U.S. Federal regulations

**United States inventory (TSCA 8b):** All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** Potassium hydroxide; potassium nitrate

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Potassium hydroxide: Immediate (acute) health hazard, Delayed (chronic) health hazard; potassium nitrate: Fire hazard, Delayed (chronic) health hazard

**Clean Water Act (CWA) 307:** No products were found.

**Clean Water Act (CWA) 311:** Potassium hydroxide

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

### SARA 313

#### Form R - Reporting requirements

| <u>Product name</u> | <u>CAS number</u> | <u>Concentration</u> |
|---------------------|-------------------|----------------------|
| potassium nitrate   | 7757-79-1         | <20                  |

#### Supplier notification

|                   |           |     |
|-------------------|-----------|-----|
| potassium nitrate | 7757-79-1 | <20 |
|-------------------|-----------|-----|

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### State regulations

**Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** None of the components are listed.  
**Michigan Critical Material:** None of the components are listed.  
**Minnesota Hazardous Substances:** None of the components are listed.  
**New Jersey Hazardous Substances:** None of the components are listed.  
**New Jersey Spill:** None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.  
**New York Acutely Hazardous Substances:** None of the components are listed.  
**New York Toxic Chemical Release Reporting:** None of the components are listed.  
**Pennsylvania RTK Hazardous Substances:** None of the components are listed.  
**Rhode Island Hazardous Substances:** None of the components are listed.

### United States inventory (TSCA 8b)

**United States inventory (TSCA 8b):** All components are listed or exempted.

### EU regulations

#### Risk phrases

This product is not classified according to EU legislation.

### International regulations

#### International lists

**Australia inventory (AICS):** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Korea inventory (KECI):** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.  
**Japan inventory (ENCS):** All components are listed or exempted.

## Section 16. Other information

### Label requirements

CAUSES SEVERE RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED.  
CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT  
CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

### Hazardous Material Information System (U.S.A.)

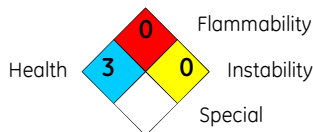
|                  |   |
|------------------|---|
| Health           | 0 |
| Flammability     | 0 |
| Physical hazards | 0 |
|                  |   |



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection  
Association (U.S.A.)



Indicates information that has changed from previously issued version.

#### History

|                  |                  |                        |                        |
|------------------|------------------|------------------------|------------------------|
| Date of printing | 13 December 2006 | Date of previous issue | No previous validation |
| Date of issue    | 13 December 2006 | Version                | 2                      |

#### Notice to reader

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.



# Material Safety Data Sheet

United States  
English

## Section 1. Chemical product and company identification

|                             |  |               |                |
|-----------------------------|--|---------------|----------------|
| Product name                | <b>Reagent 1; part of 'Nucleon™ PhytoPure™, 50 x 1.0 g'</b>                        |               |                |
| Catalogue Number            | RPN8511  |               |                |
| Material uses               | Industrial applications: Analytical chemistry. Research.                           |               |                |
| Product type                | Liquid.  |               |                |
| Validation date             | 13 December 2006   |               |                |
| Print date                  | 13 December 2006   |               |                |
| Supplier                    | GE Healthcare Bio-Sciences AB<br>SE-751 84 Uppsala<br>Sweden<br>+46 (0)18 612 0000 |               |                |
| <u>In case of emergency</u> | US   | ChemTrec (US) | 1-800-424-9300 |
|                             | Canada   | ChemTrec (US) | 1-703-527-3887 |

## 2. Hazards identification

|                    |   |
|--------------------|---|
| Physical state     | Liquid.   |
| Odor               | Odorless.   |
| OSHA/HCS status    | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).   |
| Emergency overview | WARNING !<br><br>CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.<br><br>Harmful in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and clothing. Contains material that may cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. |

### Potential acute health effects

|            |  |
|------------|--|
| Eyes       | Irritating to eyes.  |
| Skin       | Harmful in contact with skin. Irritating to skin.  |
| Inhalation | Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. |
| Ingestion  | Harmful if swallowed.  |

### Potential chronic health effects

|                       |   |
|-----------------------|---|
| Chronic effects       | Contains material that may cause target organ damage, based on animal data. |
| Carcinogenicity       | No known significant effects or critical hazards.                           |
| Mutagenicity          | No known significant effects or critical hazards.                           |
| Teratogenicity        | No known significant effects or critical hazards.                           |
| Developmental effects | No known significant effects or critical hazards.                           |
| Fertility effects     | No known significant effects or critical hazards.                           |
| Target organs         | Contains material which causes damage to the following organs: skin, eyes.  |

### Over-exposure signs/symptoms

|            |   |
|------------|---|
| Inhalation | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing |
| Ingestion  | No specific data.   |
| Skin       | Adverse symptoms may include the following:<br>irritation<br>redness                    |



|   |   |
|---|---|
| <b>Eyes</b>   | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness  |
| <b>Medical conditions aggravated by over-exposure</b> | Pre-existing skin and digestive disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product. |
| See toxicological information (section 11)            |   |

### 3. Composition/information on ingredients

| <u>Name</u>                      | <u>CAS number</u> | <u>% by weight</u> | <u>Exposure limits</u> |
|----------------------------------|-------------------|--------------------|------------------------|
| ethylenediamine tetraacetic acid | 60-00-4           | <5                 |                        |
| Sodium dodecyl sulfate           | 151-21-3          | <5                 |                        |

### Section 4. First aid measures

|                                   |   |
|-----------------------------------|---|
| <b>Eye contact</b>                | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.                                |
| <b>Skin contact</b>               | Wash with soap and water. Get medical attention if irritation develops.   |
| <b>Inhalation</b>                 | If inhaled, remove to fresh air. Get medical attention if symptoms appear.  |
| <b>Ingestion</b>                  | Do not ingest. Get medical attention if symptoms appear.  |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training.  |
| <b>Notes to physician</b>         | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |

### Section 5. Fire fighting measures

|   |   |
|---|---|
| <b>Flammability of the product</b>                    | In a fire or if heated, a pressure increase will occur and the container may burst.   |
| <b><u>Extinguishing media</u></b>                     |   |
| <b>Suitable</b>                                       | Use an extinguishing agent suitable for the surrounding fire.   |
| <b>Not suitable</b>                                   | None known.   |
| <b>Special exposure hazards</b>                       | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| <b>Hazardous combustion products</b>                  | Decomposition products may include the following materials:<br>carbon oxides<br>nitrogen oxides<br>sulfur oxides<br>metal oxide/oxides  |
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |

### Section 6. Accidental release measures

|                                  |   |
|----------------------------------|---|
| <b>Personal precautions</b>      | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).  |
| <b>Environmental precautions</b> | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).   |
| <b>Methods for cleaning up</b>   | Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. |
| <b>Small spill</b>               | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.   |

### Section 7. Handling and storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
|-----------------|--|





|                |  |
|----------------|--|
| <b>Storage</b> | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. |
|----------------|--|

## Section 8. Exposure controls, personal protection

### Consult local authorities for acceptable exposure limits.

|  |   |
|--|---|
| <b>Recommended monitoring procedures</b> | If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.  |
| <b>Engineering measures</b>              | Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.  |
| <b>Hygiene measures</b>                  | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |

### Personal protection

|  |  |
|--|--|
| <b>Respiratory</b>                     | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.      |
| <b>Hands</b>                           | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  |
| <b>Eyes</b>                            | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.  |
| <b>Skin</b>                            | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  |
| <b>Environmental exposure controls</b> | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

## Section 9. Physical and chemical properties

|                       |  |
|-----------------------|--|
| <b>Physical state</b> | Liquid.  |
| <b>Color</b>          | Colorless.   |
| <b>Odor</b>           | Odorless.  |
| <b>pH</b>             | 8 [Conc. (% w/w): 100%]  |
| <b>Solubility</b>     | Easily soluble in the following materials: cold water and hot water. |

## Section 10. Stability and reactivity

|   |  |
|---|--|
| <b>Stability</b>                        | The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.  |
| <b>Conditions to avoid</b>              | No specific data.  |
| <b>Materials to avoid</b>               | No specific data.  |
| <b>Hazardous decomposition products</b> | Under normal conditions of storage and use, hazardous decomposition products should not be produced.   |
| <b>Hazardous polymerization</b>         | Will not occur.  |
| <b>Conditions of reactivity</b>         | Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.<br>Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. |

## Section 11. Toxicological information

### Acute toxicity

| Product/ingredient name          | Result               | Species | Dose        | Exposure |
|----------------------------------|----------------------|---------|-------------|----------|
| ethylenediamine tetraacetic acid | LD50 Intraperitoneal | Rat     | 512.9 mg/kg | -        |
|                                  | LD50 Intraperitoneal | Rat     | 397 mg/kg   | -        |
| Sodium dodecyl sulfate           | LD50 Intraperitoneal | Rat     | 210 mg/kg   | -        |
|                                  | LD50 Intravenous     | Rat     | 118 mg/kg   | -        |
|                                  | LD50 Oral            | Rat     | 1288 mg/kg  | -        |
|                                  | LDLo Dermal          | Rabbit  | 10 g/kg     | -        |
| <b>Conclusion/Summary</b>        | Not available.       |         |             |          |



## Section 12. Ecological information

**Environmental effects** No known significant effects or critical hazards.

### Aquatic ecotoxicity

| Product/ingredient name          | Test         | Result                | Species | Exposure |
|----------------------------------|--------------|-----------------------|---------|----------|
| ethylenediamine tetraacetic acid | Intoxication | Acute EC50 113 mg/L   | Daphnia | 48 hours |
|                                  | Mortality    | Acute LC50 159 mg/L   | Fish    | 96 hours |
|                                  | Mortality    | Acute LC50 532 mg/L   | Fish    | 96 hours |
|                                  | Mortality    | Acute LC50 59.8 mg/L  | Fish    | 96 hours |
| Sodium dodecyl sulfate           | Mortality    | Acute LC50 41 mg/L    | Fish    | 96 hours |
|                                  | Physiology   | Acute EC50 104.8 mg/L | Algae   | 48 hours |
|                                  | Intoxication | Acute EC50 31 mg/L    | Daphnia | 48 hours |
|                                  | Physiology   | Acute EC50 6 mg/L     | Daphnia | 48 hours |
|                                  | Mortality    | Acute LC50 4.62 mg/L  | Fish    | 96 hours |
|                                  | Mortality    | Acute LC50 4.5 mg/L   | Fish    | 96 hours |
|                                  | Mortality    | Acute LC50 1.31 mg/L  | Fish    | 96 hours |
|                                  | Mortality    | Acute LC50 1.31 mg/L  | Fish    | 96 hours |

**Conclusion/Summary** Not available.

### Biodegradability

**Conclusion/Summary** Not available.

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Waste disposal** The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

### International transport regulations

Not classified.

## Section 15. Regulatory information

**HCS Classification** Irritating material  
Target organ effects

**U.S. Federal regulations** **United States inventory (TSCA 8b):** All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** ethylenediamine tetraacetic acid; Sodium dodecyl sulfate

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** ethylenediamine tetraacetic acid: Immediate (acute) health hazard, Delayed (chronic) health hazard; Sodium dodecyl sulfate: Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Water Act (CWA) 307:** No products were found.

**Clean Water Act (CWA) 311:** ethylenediamine tetraacetic acid

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.



**State regulations**

**Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** None of the components are listed.  
**Michigan Critical Material:** None of the components are listed.  
**Minnesota Hazardous Substances:** None of the components are listed.  
**New Jersey Hazardous Substances:** None of the components are listed.  
**New Jersey Spill:** None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.  
**New York Acutely Hazardous Substances:** None of the components are listed.  
**New York Toxic Chemical Release Reporting:** None of the components are listed.  
**Pennsylvania RTK Hazardous Substances:** None of the components are listed.  
**Rhode Island Hazardous Substances:** None of the components are listed.

**United States inventory (TSCA 8b)**

**United States inventory (TSCA 8b):** All components are listed or exempted.

**EU regulations****Risk phrases**

This product is not classified according to EU legislation.

**International regulations****International lists**

**Australia inventory (AICS):** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Korea inventory (KECI):** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.  
**Japan inventory (ENCS):** All components are listed or exempted.

**Section 16. Other information****Label requirements**

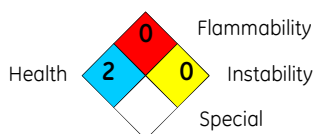
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

**Hazardous Material Information System (U.S.A.)**

|                  |   |
|------------------|---|
| Health           | 0 |
| Flammability     | 0 |
| Physical hazards | 0 |
|                  |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)**

Indicates information that has changed from previously issued version.

**History**

|                         |                  |                               |                        |
|-------------------------|------------------|-------------------------------|------------------------|
| <b>Date of printing</b> | 13 December 2006 | <b>Date of previous issue</b> | No previous validation |
| <b>Date of issue</b>    | 13 December 2006 | <b>Version</b>                | 2                      |

**Notice to reader**

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.



# Material Safety Data Sheet

United States  
English

## Section 1. Chemical product and company identification

|                             |  |               |                |
|-----------------------------|--|---------------|----------------|
| Product name                | <b>Reagent 2; part of 'Nucleon™ PhytoPure™, 50 x 0.1 g'</b>                        |               |                |
| Catalogue Number            | <b>RPN8511</b>   |               |                |
| Material uses               | Industrial applications: Analytical chemistry. Research.                           |               |                |
| Product type                | Liquid.  |               |                |
| Validation date             | 18 December 2006   |               |                |
| Print date                  | 18 December 2006   |               |                |
| Supplier                    | GE Healthcare Bio-Sciences AB<br>SE-751 84 Uppsala<br>Sweden<br>+46 (0)18 612 0000 |               |                |
| <u>In case of emergency</u> | US   | ChemTrec (US) | 1-800-424-9300 |
|                             | Canada   | ChemTrec (US) | 1-703-527-3887 |

## 2. Hazards identification

|                    |  |
|--------------------|--|
| Physical state     | Liquid.  |
| Odor               | Odorless.  |
| OSHA/HCS status    | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  |
| Emergency overview | CAUTION !<br><br>MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.<br><br>Moderately irritating to the eyes, skin and respiratory system. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Contains material that can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. |

### Potential acute health effects

|            |   |
|------------|---|
| Eyes       | Moderately irritating to eyes.                    |
| Skin       | Moderately irritating to the skin.                |
| Inhalation | Moderately irritating to the respiratory system.  |
| Ingestion  | No known significant effects or critical hazards. |

### Potential chronic health effects

|                       |   |
|-----------------------|---|
| Chronic effects       | Contains material that can cause target organ damage.                                     |
| Carcinogenicity       | No known significant effects or critical hazards.   |
| Mutagenicity          | No known significant effects or critical hazards.   |
| Teratogenicity        | No known significant effects or critical hazards.   |
| Developmental effects | No known significant effects or critical hazards.   |
| Fertility effects     | No known significant effects or critical hazards.   |
| Target organs         | Contains material which causes damage to the following organs: skin, eye, lens or cornea. |

### Over-exposure signs/symptoms

|            |   |
|------------|---|
| Inhalation | Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing |
| Ingestion  | No specific data.   |
| Skin       | Adverse symptoms may include the following:<br>irritation<br>redness                    |



|   |  |
|---|--|
| <b>Eyes</b>   | Adverse symptoms may include the following:<br>irritation<br>watering<br>redness   |
| <b>Medical conditions aggravated by over-exposure</b> | Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product. |
| See toxicological information (section 11)            |  |

### 3. Composition/information on ingredients

| <u>Name</u>       | <u>CAS number</u> | <u>% by weight</u> | <u>Exposure limits</u> |
|-------------------|-------------------|--------------------|------------------------|
| Potassium acetate | 127-08-2          | <50                |                        |

### Section 4. First aid measures

|                                   |  |
|-----------------------------------|--|
| <b>Eye contact</b>                | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.  |
| <b>Skin contact</b>               | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.   |
| <b>Inhalation</b>                 | Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.  |
| <b>Ingestion</b>                  | Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.   |
| <b>Notes to physician</b>         | No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.   |

### Section 5. Fire fighting measures

|   |   |
|---|---|
| <b>Flammability of the product</b>                    | In a fire or if heated, a pressure increase will occur and the container may burst.   |
| <b><u>Extinguishing media</u></b>                     |   |
| <b>Suitable</b>                                       | Use an extinguishing agent suitable for the surrounding fire.   |
| <b>Not suitable</b>                                   | None known.   |
| <b>Special exposure hazards</b>                       | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| <b>Hazardous combustion products</b>                  | Decomposition products may include the following materials:<br>carbon oxides<br>metal oxide/oxides  |
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |

### Section 6. Accidental release measures

|                                  |   |
|----------------------------------|---|
| <b>Personal precautions</b>      | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).  |
| <b>Environmental precautions</b> | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).   |
| <b>Methods for cleaning up</b>   | Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. |
| <b>Small spill</b>               | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.   |



## Section 7. Handling and storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| <b>Storage</b>  | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.   |

## Section 8. Exposure controls, personal protection

### Consult local authorities for acceptable exposure limits.

|  |   |
|--|---|
| <b>Recommended monitoring procedures</b> | If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.  |
| <b>Engineering measures</b>              | Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.  |
| <b>Hygiene measures</b>                  | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| <b>Personal protection</b>               |   |
| <b>Respiratory</b>                       | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.   |
| <b>Hands</b>                             | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.   |
| <b>Eyes</b>                              | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.   |
| <b>Skin</b>                              | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.   |
| <b>Environmental exposure controls</b>   | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.  |

## Section 9. Physical and chemical properties

|                       |                |
|-----------------------|----------------|
| <b>Physical state</b> | Liquid.        |
| <b>Color</b>          | Colorless.     |
| <b>Odor</b>           | Odorless.      |
| <b>Solubility</b>     | Not available. |

## Section 10. Stability and reactivity

|   |  |
|---|--|
| <b>Stability</b>                        | The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.  |
| <b>Conditions to avoid</b>              | No specific data.  |
| <b>Materials to avoid</b>               | No specific data.  |
| <b>Hazardous decomposition products</b> | Under normal conditions of storage and use, hazardous decomposition products should not be produced.   |
| <b>Hazardous polymerization</b>         | Will not occur.  |
| <b>Conditions of reactivity</b>         | Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.<br>Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. |



## Section 11. Toxicological information

### Acute toxicity

| Product/ingredient name | Result         | Species | Dose       | Exposure |
|-------------------------|----------------|---------|------------|----------|
| Potassium acetate       | LD50 Oral      | Rat     | 3250 mg/kg | -        |
| Conclusion/Summary      | Not available. |         |            |          |

## Section 12. Ecological information

**Environmental effects** No known significant effects or critical hazards.

### Aquatic ecotoxicity

**Conclusion/Summary** Not available.

### Biodegradability

**Conclusion/Summary** Not available.

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Waste disposal** The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

### International transport regulations

Not classified.

## Section 15. Regulatory information

**HCS Classification** Irritating material  
Target organ effects

**U.S. Federal regulations** **United States inventory (TSCA 8b):** All components are listed or exempted.  
**SARA 302/304/311/312 extremely hazardous substances:** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals:** Potassium acetate  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Potassium acetate: Delayed (chronic) health hazard  
**Clean Water Act (CWA) 307:** No products were found.  
**Clean Water Act (CWA) 311:** No products were found.  
**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

**State regulations** **Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** None of the components are listed.  
**Michigan Critical Material:** None of the components are listed.  
**Minnesota Hazardous Substances:** None of the components are listed.  
**New Jersey Hazardous Substances:** None of the components are listed.  
**New Jersey Spill:** None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.



**New York Acutely Hazardous Substances:** None of the components are listed.  
**New York Toxic Chemical Release Reporting:** None of the components are listed.  
**Pennsylvania RTK Hazardous Substances:** None of the components are listed.  
**Rhode Island Hazardous Substances:** None of the components are listed.

**United States inventory (TSCA 8b)****United States inventory (TSCA 8b):** All components are listed or exempted.**EU regulations****Risk phrases**

This product is not classified according to EU legislation.

**International regulations****International lists**

**Australia inventory (AICS):** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Korea inventory (KECI):** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.  
**Japan inventory (ENCS):** All components are listed or exempted.

**Section 16. Other information****Label requirements**

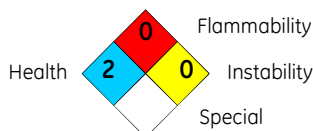
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

**Hazardous Material Information System (U.S.A.)**

|                  |   |
|------------------|---|
| Health           | 0 |
| Flammability     | 0 |
| Physical hazards | 0 |
|                  |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)**

Indicates information that has changed from previously issued version.

**History**

|                         |                  |                               |                        |
|-------------------------|------------------|-------------------------------|------------------------|
| <b>Date of printing</b> | 18 December 2006 | <b>Date of previous issue</b> | No previous validation |
| <b>Date of issue</b>    | 18 December 2006 | <b>Version</b>                | 2                      |

**Notice to reader**

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.

