

# Solution 3 **Genesee Scientific**

Version No: 1.0.0.0

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

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## **SECTION 1 Identification**

| Product Identifier            |               |
|-------------------------------|---------------|
| Product name                  | Solution 3    |
| Synonyms                      | Not Available |
| Other means of identification | Not Available |

## Recommended use of the chemical and restrictions on use

| Relevant identified uses | For research use only. |
|--------------------------|------------------------|

#### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

| Registered company name | Genesee Scientific  |
|-------------------------|---|
| Address                 | 900 Vernon Way, Suite 101 El Cajon CA 92020 United States |
| Telephone               | 800.789.5550  |
| Fax                     | 888.789.0444  |
| Website                 | geneseesci.com  |
| Email                   | support@geneseesci.com                                    |
|                         |   |

### Emergency phone number

| Association / Organization        | CHEMTREC                             |
|-----------------------------------|--------------------------------------|
| Emergency telephone<br>numbers    | USA & Canada: 1-800-424-9300         |
| Other emergency telephone numbers | Outside USA & Canada: 1-703-527-3887 |

### SECTION 2 Hazard(s) identification

#### Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification

Serious Eye Damage/Eye Irritation Category 1, Skin Corrosion/Irritation Category 1A

## Label elements

Hazard pictogram(s)



Page 1 continued...

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| Signal word         | Danger                                   |
|---------------------|--|
| Hazard statement(s) |  |
| H314                | Causes severe skin burns and eye damage. |

#### Hazard(s) not otherwise classified

Not Applicable

## Precautionary statement(s) Prevention

| P260 | Do not breathe mist/vapors/spray.  |
|------|--|
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

## Precautionary statement(s) Response

| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
|----------------|--|
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.                       |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310           | Immediately call a POISON CENTER or doctor/physician.  |
| P363           | Wash contaminated clothing before reuse.   |
| P304+P340      | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |

## Precautionary statement(s) Storage

Store locked up.

#### Precautionary statement(s) Disposal

Dispose of contents/container to authorized hazardous or special waste collection point in accordance with any local regulation.

## **SECTION 3 Composition / information on ingredients**

P405

P501

#### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No  | %[weight] | Name                |
|---------|-----------|---------------------|
| 64-19-7 | 25-50     | acetic acid glacial |

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

## **SECTION 4 First-aid measures**

## Description of first aid measures

| Eye Contact  | <ul> <li>If this product comes in contact with the eyes:</li> <li>Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>Transport to hospital or doctor without delay.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
|--------------|---|
| Skin Contact | <ul> <li>If skin or hair contact occurs:</li> <li>Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>Quickly remove all contaminated clothing, including footwear.</li> <li>Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>Transport to hospital, or doctor.</li> </ul>  |
| Inhalation   | <ul> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>Transport to hospital, or doctor, without delay.</li> </ul>  |
| Ingestion    | <ul> <li>For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>Urgent hospital treatment is likely to be needed.</li> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Transport to hospital or doctor without delay.</li> </ul> |

Continued...

See Section 11

#### Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to strong acids

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterized by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralize the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
   Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

• Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.

• Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjuctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralizing agents or any other additives. Several liters of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.

Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

## **SECTION 5 Fire-fighting measures**

### Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog Large fires only.

### Special hazards arising from the substrate or mixture

| Special hazards ansing nom the substrate of mixture |   |  |
|---|---|--|
| Fire Incompatibility                                | Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result  |  |
| Special protective equipment a                      | nd precautions for fire-fighters  |  |
| Fire Fighting                                       | <ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear full body protective clothing with breathing apparatus.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>Avoid spraying water onto liquid pools.</li> <li>DO NOT approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> </ul> |  |
| Fire/Explosion Hazard                               | <ul> <li>Combustible.</li> <li>Slight fire hazard when exposed to heat or flame.</li> <li>Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>May emit acrid smoke and corrosive fumes.</li> <li>Combustion products include:</li> <li>carbon dioxide (CO2)</li> <li>other pyrolysis products typical of burning organic material.</li> <li>May emit poisonous fumes.</li> <li>May emit corrosive fumes.</li> </ul>                                     |  |

#### **SECTION 6 Accidental release measures**

#### Personal precautions, protective equipment and emergency procedures See section 8

### **Environmental precautions**

See section 12

### Methods and material for containment and cleaning up

| Minor Spills | <ul> <li>Environmental hazard - contain spillage.</li> <li>Remove all ignition sources.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapors and contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>Wipe up.</li> <li>Place in a suitable, labelled container for waste disposal.</li> </ul> |
|--------------|---|
|--------------|---|

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| Major Spillo | Environmental hazard - contain spillage.<br>Moderate hazard.<br>Clear area of personnel and move upwind.<br>Alert Fire Brigade and tell them location and nature of hazard.<br>Wear breathing apparatus plus protective gloves.<br>Prevent, by any means available, spillage from entering drains or water course.<br>No smoking, naked lights or ignition sources.  |
|--------------|--|
|              | <ul> <li>Cotop leak in sale to do do.</li> <li>Contain spill with sand, earth or vermiculite.</li> <li>Collect recoverable product into labelled containers for recycling.</li> <li>Absorb remaining product with sand, earth or vermiculite.</li> <li>Collect solid residues and seal in labelled drums for disposal.</li> <li>Wash area and prevent runoff into drains.</li> <li>If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

| Precautions for safe handling |  |
|-------------------------------|--|
| Safe handling                 | <ul> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>Prevent concentration in hollows and sumps.</li> <li>DO NOT enter confined spaces until atmosphere has been checked.</li> <li>Avoid smoking, naked lights or ignition sources.</li> <li>Avoid contact with incompatible materials.</li> <li>When handling, DO NOT eat, drink or smoke.</li> <li>Keep containers securely sealed when not in use.</li> <li>Avoid physical damage to containers.</li> <li>Always wash hands with soap and water after handling.</li> <li>Work clothes should be laundered separately.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li> <li>DO NOT allow clothing wet with material to stay in contact with skin</li> </ul> |
| Other information             | <ul> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>   |

## Conditions for safe storage, including any incompatibilities

| Suitable container      | <ul> <li>Lined metal can, lined metal pail/ can.</li> <li>Plastic pail.</li> <li>Polyliner drum.</li> <li>Packing as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> <li>Metal can or drum</li> <li>Packaging as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul>   |
|-------------------------|--|
| Storage incompatibility | <ul> <li>Reacts with mild steel, galvanized steel / zinc producing hydrogen gas which may form an explosive mixture with air.</li> <li>Acetic acid: <ul> <li>vapors forms explosive mixtures with air (above 39 C.)</li> <li>reacts violently with bases such as carbonates and hydroxides (giving off large quantities of heat), oxidizers, organic amines, acetaldehyde, potassium tert-butoxide</li> <li>reacts (sometimes violently), with strong acids, aliphatic amines, alkanolamines, alkylene oxides, epichlorohydrin, acetic anhydride, 2-aminoethanol, ammonium nitrate, bromine pentafluoride, chlorosulfonic acid, chromic acid, chromium trioxide, ethylenediamine, ethyleneimine, hydrogen peroxide, isocyanates, oleum, perchloric acid, permanganates, phosphorus isocyanate, phosphorus trichloride, sodium peroxide, xylene</li> <li>attacks cast iron, stainless steel and other metals, forming flammable hydrogen gas</li> <li>attacks many forms of rubber, plastics and coatings</li> <li>Avoid strong bases.</li> <li>Avoid reaction with oxidizing agents</li> </ul> </li> </ul> |

## SECTION 8 Exposure controls / personal protection

## **Control parameters**

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

| Source  | Ingredient          | Material name | TWA               | STEL          | Peak          | Notes         |
|---|---------------------|---------------|-------------------|---------------|---------------|---------------|
| US OSHA Permissible Exposure<br>Limits (PELs) Table Z-1 | acetic acid glacial | Acetic acid   | 10 ppm / 25 mg/m3 | Not Available | Not Available | Not Available |

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| Source   | Ingredient          | Material name | TWA               | STEL              |        | Peak          | Notes         |
|--|---------------------|---------------|-------------------|-------------------|--------|---------------|---------------|
| US NIOSH Recommended<br>Exposure Limits (RELs) | acetic acid glacial | Acetic acid   | 10 ppm / 25 mg/m3 | 37 mg/m3 / 15 ppm |        | Not Available | Not Available |
| US ACGIH Threshold Limit<br>Values (TLV)       | acetic acid glacial | Acetic acid   | 10 ppm            | 15 ppm            |        | Not Available | Not Available |
| Emergency Limits                               |                     |               |                   |                   |        |               |               |
| Ingredient                                     | TEEL-1              |               | TEEL-2            |                   | TEEL   | -3            |               |
| acetic acid glacial                            | Not Available       |               | Not Available     |                   | Not Av | vailable      |               |
| In our distant                                 |                     |               |                   | Device of IDLU    |        |               |               |
| Ingredient                                     | Original IDLH       |               |                   | Kevisea IDLH      |        |               |               |
| acetic acid glacial                            | 50 ppm              |               |                   | Not Available     |        |               |               |

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## Exposure controls

|                         | Engineering controls are used to remove a hazard or place<br>be highly effective in protecting workers and will typically be<br>The basic types of engineering controls are:<br>Process controls which involve changing the way a job acti<br>Enclosure and/or isolation of emission source which keeps<br>"adds" and "removes" air in the work environment. Ventilatii<br>ventilation system must match the particular process and ch<br>Employers may need to use multiple types of controls to pr<br>Local exhaust ventilation usually required. If risk of overexp<br>protection. Supplied-air type respirator may be required in s<br>An approved self contained breathing apparatus (SCBA) m<br>Provide adequate ventilation in warehouse or closed storag<br>velocities which, in turn, determine the "capture velocities"   | a barrier between the worker and<br>a independent of worker interaction<br>vity or process is done to reduce th<br>a selected hazard "physically" awa<br>on can remove or dilute an air cont<br>nemical or contaminant in use.<br>revent employee overexposure.<br>sosure exists, wear approved respin<br>special circumstances. Correct fit is<br>any be required in some situations.<br>ge area. Air contaminants generate<br>of fresh circulating air required to e | the hazard. Well-designed e<br>s to provide this high level of<br>ne risk.<br>ay from the worker and ventil<br>aminant if designed properly<br>rator. Correct fit is essential t<br>s essential to ensure adequated<br>in the workplace possess of<br>ffectively remove the contam | ngineering controls can<br>protection.<br>lation that strategically<br>. The design of a<br>o obtain adequate<br>te protection.<br>varying "escape"<br>inant. |
|-------------------------|---|--|--|---|
|                         |   |  | ·····, · · · · · · · · · · · · · · · ·   |   |
|                         |   |  |  | Air Speed:  |
|                         | solvent, vapors, degreasing etc., evaporating from tank (in   | n still air).  |  | (50-100 f/min.)   |
| Appropriate engineering | aerosols, fumes from pouring operations, intermittent cont<br>drift, plating acid fumes, pickling (released at low velocity i   | ainer filling, low speed conveyer tr<br>nto zone of active generation)   | ansfers, welding, spray  | 0.5-1 m/s (100-200<br>f/min.)   |
| controls                | direct spray, spray painting in shallow booths, drum filling, generation into zone of rapid air motion)   | conveyer loading, crusher dusts, g   | gas discharge (active  | 1-2.5 m/s (200-500<br>f/min.)   |
|                         | grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zo very high rapid air motion).   |  |  | 2.5-10 m/s<br>(500-2000 f/min.)   |
|                         | Within each range the appropriate value depends on:   |  |  |   |
|                         | Lower end of the range  | Upper end of the range   |  |   |
|                         | 1: Room air currents minimal or favorable to capture  | 1: Disturbing room air currents  |  |   |
|                         | 2: Contaminants of low toxicity or of nuisance value only.  | 2: Contaminants of high toxicity   |  |   |
|                         | 3: Intermittent, low production.  | 3: High production, heavy use  |  |   |
|                         | 4: Large hood or large air mass in motion   | 4: Small hood-local control only   |  |   |
|                         | Simple theory shows that air velocity falls rapidly with distar<br>with the square of distance from the extraction point (in sim<br>accordingly, after reference to distance from the contamina<br>1-2 m/s (200-400 f/min) for extraction of solvents generated<br>producing performance deficits within the extraction appara<br>more when extraction systems are installed or used.   | nce away from the opening of a sin<br>ple cases). Therefore the air speed<br>ting source. The air velocity at the<br>d in a tank 2 meters distant from th<br>tus, make it essential that theoretic   | nple extraction pipe. Velocity<br>d at the extraction point shou<br>extraction fan, for example, i<br>ae extraction point. Other me<br>cal air velocities are multiplie  | generally decreases<br>Id be adjusted,<br>should be a minimum of<br>chanical considerations,<br>d by factors of 10 or   |
| Personal protection     |   |  |  |   |
| Eye and face protection | <ul> <li>Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</li> <li>Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.</li> <li>Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.</li> <li>Alternatively, a gas mask may replace splash goggles and face shields.</li> <li>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be tranded in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul> |  |  |   |
| Skin protection         | See Hand protection below   |  |  |   |
| Hands/feet protection   | <ul> <li>Elbow length PVC gloves</li> <li>When handling corrosive liquids, wear trousers or over</li> </ul>   | alls outside of boots, to avoid spills   | s entering boots.  |   |
|                         |   |  |  | Continued   |

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|                  | The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.<br>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.<br>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be worned and dright therewish. |
|------------------|---|
|                  | Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:<br>frequency and durability of contact,   |
|                  | chemical resistance of glove material,     glove thickness and  |
|                  | <ul> <li>dexterity</li> <li>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</li> <li>When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li> <li>When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to</li> </ul>   |
|                  | EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.<br>Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term  |
|                  | <ul> <li>Contaminated gloves should be replaced.</li> <li>As defined in ASTM F-739-96 in any application, gloves are rated as:</li> </ul>   |
|                  | <ul> <li>Excellent when breakthrough time &gt; 480 min</li> <li>Good when breakthrough time &gt; 20 min</li> <li>Fair when breakthrough time &lt; 20 min</li> </ul>   |
|                  | <ul> <li>Poor when glove material degrades</li> <li>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</li> <li>It should be emphasized that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</li> </ul>  |
|                  | Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.<br>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:<br>Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.  |
|                  | or puncture potential<br>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed<br>moisturizer is recommended.   |
| Body protection  | See Other protection below  |
| Other protection | <ul> <li>Overalls.</li> <li>P.V.C apron.</li> <li>Barrier cream.</li> <li>Skin cleansing cream.</li> <li>Eye wash unit.</li> </ul>  |

### Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection: Solution 3

| Material          | СРІ |
|-------------------|-----|
| BUTYL             | A   |
| NEOPRENE          | А   |
| NITRILE+PVC       | A   |
| PE                | А   |
| PE/EVAL/PE        | А   |
| PVC               | А   |
| SARANEX-23        | А   |
| TEFLON            | A   |
| BUTYL/NEOPRENE    | В   |
| NATURAL RUBBER    | В   |
| NATURAL+NEOPRENE  | В   |
| NITRILE           | В   |
| NAT+NEOPR+NITRILE | С   |

\* CPI - Chemwatch Performance Index

#### A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection

Type AB-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum<br>Protection Factor | Half-Face<br>Respirator | Full-Face<br>Respirator | Powered Air<br>Respirator   |
|---------------------------------------|-------------------------|-------------------------|-----------------------------|
| up to 10 x ES                         | AB-AUS P2               | -                       | AB-PAPR-AUS /<br>Class 1 P2 |
| up to 50 x ES                         | -                       | AB-AUS / Class<br>1 P2  | -                           |
| up to 100 x ES                        | -                       | AB-2 P2                 | AB-PAPR-2 P2 ^              |

#### ^ - Full-face

 $\begin{array}{l} \mathsf{A}(\mathsf{All classes}) = \mathsf{Organic vapors}, \mathsf{B} \; \mathsf{AUS or B1} = \mathsf{Acid gasses}, \mathsf{B2} = \mathsf{Acid gas or hydrogen cyanide}(\mathsf{HCN}), \mathsf{B3} = \mathsf{Acid gas or hydrogen cyanide}(\mathsf{HCN}), \mathsf{E} = \mathsf{Sulfur dioxide}(\mathsf{SO2}), \mathsf{G} = \mathsf{Agricultural chemicals}, \; \mathsf{K} = \mathsf{Ammonia}(\mathsf{NH3}), \; \mathsf{Hg} = \mathsf{Mercury}, \; \mathsf{NO} = \mathsf{Oxides of nitrogen}, \; \mathsf{MB} = \mathsf{Methyl bromide}, \; \mathsf{AX} = \mathsf{Low boiling point organic compounds}(\mathsf{below 65 degC}) \\ \end{array}$ 

Cartridge respirators should never be used for emergency ingress or in areas of • unknown vapor concentrations or oxygen content.

- The wearer must be warned to leave the contaminated area immediately on
- detecting any odors through the respirator. The odor may indicate that the mask is not functioning properly, that the vapor concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

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## **SECTION 9** Physical and chemical properties

| Information on basic physical and chemical properties | formation | on basic ph | vsical and | chemical | properties |
|---|-----------|-------------|------------|----------|------------|
|---|-----------|-------------|------------|----------|------------|

| Appearance                                      | Not Available |  |               |
|---|---------------|--|---------------|
|   |               |  |               |
| Physical state                                  | Liquid        | Relative density (Water = 1)               | Not Available |
| Odor  | Not Available | Partition coefficient n-octanol<br>/ water | Not Available |
| Odor threshold                                  | Not Available | Auto-ignition temperature (°C)             | Not Available |
| pH (as supplied)                                | Not Available | Decomposition temperature                  | Not Available |
| Melting point / freezing point<br>(°C)          | Not Available | Viscosity (cSt)                            | Not Available |
| Initial boiling point and boiling<br>range (°C) | Not Available | Molecular weight (g/mol)                   | Not Available |
| Flash point (°C)                                | Not Available | Taste                                      | Not Available |
| Evaporation rate                                | Not Available | Explosive properties                       | Not Available |
| Flammability                                    | Not Available | Oxidizing properties                       | Not Available |
| Upper Explosive Limit (%)                       | Not Available | Surface Tension (dyn/cm or mN/m)           | Not Available |
| Lower Explosive Limit (%)                       | Not Available | Volatile Component (%vol)                  | Not Available |
| Vapor pressure (kPa)                            | Not Available | Gas group                                  | Not Available |
| Solubility in water                             | Immiscible    | pH as a solution (1%)                      | Not Available |
| Vapor density (Air = 1)                         | Not Available | VOC g/L                                    | Not Available |

## SECTION 10 Stability and reactivity

| Reactivity                          | See section 7  |
|-------------------------------------|--|
| Chemical stability                  | <ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerization will not occur.</li> </ul> |
| Possibility of hazardous reactions  | See section 7  |
| Conditions to avoid                 | See section 7  |
| Incompatible materials              | See section 7  |
| Hazardous decomposition<br>products | See section 5  |

## **SECTION 11 Toxicological information**

## Information on toxicological effects

| Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.         Ingestion       Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and esophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.         Ingestion of low-molecular organic acid solutions may produce spontaneous hemorrhaging, production of blood clots, gastrointestinal damage and narrowing of the esophagus and stomach entry.         Ingestion of acetic acid may cause delayed stomach, intestinal and esophageal perforation, and death in severe cases.         Skin contact       Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.         Open cuts, abraded or irritated skin should not be exposed to this material       Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material may be harmful; systemic effects may result following absorption.         The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterized by redness, swelling and blistering.         Eye       Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.         If applied to the eyes, this material causes severe eye damage.       Irritation of the eyes m | Inhaled      | The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.<br>Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.<br>Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.<br>Minor acetic acid exposure may cause temporary loss of voice while severe acute vapor exposure may cause fluid accumulation in the lungs.<br>Exposure at 800-1200 ppm cannot be tolerated longer than 3 minutes.  |
|--|--------------|---|
| Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.         Open cuts, abraded or irritated skin should not be exposed to this material         Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.         Action of acetic acid on the skin may be delayed and insidious.         Skin contact with the material may be harmful; systemic effects may result following absorption.         The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterized by redness, swelling and blistering.         Eye       Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.         If applied to the eyes, this material causes severe eye damage.       Irritation of the eyes may produce a heavy secretion of tears (lachrymation).  | Ingestion    | Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.<br>Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and esophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.<br>Ingestion of low-molecular organic acid solutions may produce spontaneous hemorrhaging, production of blood clots, gastrointestinal damage and narrowing of the esophagus and stomach entry.<br>Ingestion of acetic acid may cause delayed stomach, intestinal and esophageal perforation, and death in severe cases.   |
| Eye       Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.         If applied to the eyes, this material causes severe eye damage.         Irritation of the eyes may produce a heavy secretion of tears (lachrymation).   | Skin Contact | Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin<br>prior to the use of the material and ensure that any external damage is suitably protected.<br>Action of acetic acid on the skin may be delayed and insidious.<br>Skin contact with the material may be harmful; systemic effects may result following absorption.<br>The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can<br>cause contact dermatitis which is characterized by redness, swelling and blistering. |
|  | Eye          | Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.<br>If applied to the eyes, this material causes severe eye damage.<br>Irritation of the eyes may produce a heavy secretion of tears (lachrymation).  |

|                                      | Solutions of low-molecular weight organic acids cause pain and injury to the eyes.<br>Acetic acid produces eye irritation at concentrations below 10 ppm.   |  |  |
|--------------------------------------|---|--|--|
| Chronic                              | Repeated or prolonged exposure to acids may result in<br>with cough, and inflammation of lung tissue often occurs<br>Repeated or long-term occupational exposure is likely to<br>Long-term exposure to respiratory irritants may result in<br>Repeated minor exposure to acetic acid by mouth can c<br>nausea. Repeated minor vapor exposure may cause ch<br>one report indicating only slight irritation to the airways,<br>pharynx and erosion of teeth. Exposure to higher levels<br>constipation have also been reported with prolonged exp   | the erosion of teeth, swelling and/or u<br>produce cumulative health effects in<br>airways disease, involving difficulty b<br>ause blackening of the skin and teeth<br>ronic inflammation of the airways and<br>stomach and skin, while another repo<br>caused blackening and hyperkeratosi<br>osures. | Iceration of mouth lining. Irritation of airways to lung,<br>volving organs or biochemical systems.<br>reathing and related whole-body problems.<br>, erosion of the teeth, vomiting, diarrhea and<br>bronchitis. Results from testing are mixed, with<br>rted inflammation of the conjunctiva, bronchi,<br>s of the skin and hands. Heartburn and |
|                                      | тохісіту  | IRRITATION   |  |
| Solution 3                           | Not Available   | Not Available  |  |
|                                      | тохісіту  | IRRITATION   |  |
|                                      | dermal (mammal) LD50: 1060 mg/kg <sup>[2]</sup>   | Eye (rabbit): 0.05r  | ng (open)-SEVERE   |
| acetic acid glacial                  | Inhalation(Mouse) LC50; 1.405 mg/L4h <sup>[2]</sup>   | Skin (human):50m   | ng/24hr - mild   |
|                                      | Oral(Rabbit) LD50; ~600 mg/kg <sup>[2]</sup>  | Skin (rabbit):525m   | ng (open)-SEVERE   |
| Legend:                              | end: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances   |  |  |
|                                      |   |  |  |
| ACETIC ACID GLACIAL                  | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.   |  |  |
| Solution 3 & ACETIC ACID<br>GLACIAL  | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilla. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. For acid mists, aerosols, vapors Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there). Prolonged inhalation exposure to aceit acid may produce irritation and/ or corrosion at the site of contact as well as systemic toxicity. Prolonged inhalation exposure results in muscle imbalance, increase in blood cholinesterase activity, decrease in albumin and decreased growth but no reproductive or fetal toxicity, according to animal testing. |  |  |
| Acute Toxicity                       | ×   | Carcinogenicity  | ×  |
| Skin Irritation/Corrosion            | ✓   | Reproductivity   | ×  |
| Serious Eye Damage/Irritation        | ✓   | STOT - Single Exposure   | ×  |
| Respiratory or Skin<br>sensitization | ×   | STOT - Repeated Exposure   | ×  |
| Mutagenicity                         | ×   | Aspiration Hazard  | ×  |

Legend:

Data either not available or does not fill the criteria for classification

## **SECTION 12 Ecological information**

| Endpoint   | Test Duration (hr)  | Species   | Value  | Source   |
|--|---|---|--|--|
| Not<br>Available                                 | Not Available   | Not Available   | Not<br>Available   | Not<br>Available   |
| Endpoint   | Test Duration (hr)  | Species   | Value  | Source   |
| EC50(ECx)  | 24h   | Algae or other aquatic plants   | 0.08mg/l   | 2  |
| EC50   | 72h   | Algae or other aquatic plants   | 29.23mg/l  | 2  |
| LC50   | 96h   | Fish  | 0.617mg/L  | 4  |
| EC50   | 48h   | Crustacea   | 18.9mg/l   | 2  |
| Extracted from<br>V3.12 (QSAR)<br>Data 6. NITE ( | 1. IUCLID Toxicity Data 2. Europe ECHA Registe<br>- Aquatic Toxicity Data (Estimated) 4. US EPA, Ec<br>Japan) - Bioconcentration Data 7. METI (Japan) - E | red Substances - Ecotoxicological Informatio<br>cotox database - Aquatic Toxicity Data 5. EC<br>Bioconcentration Data 8. Vendor Data  | n - Aquatic Toxicity 3. E<br>ETOC Aquatic Hazard A   | PIWIN Suite<br>Assessment  |
|  | Endpoint<br>Not<br>Available<br>EC50(ECx)<br>EC50<br>EC50<br>EC50<br>Extracted from<br>V3.12 (QSAR)<br>Data 6. NITE (                                     | Endpoint       Test Duration (hr)         Not<br>Available       Not Available         Endpoint       Test Duration (hr)         EC50(ECx)       24h         EC50       72h         LC50       96h         EC50       48h         Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Register         V3.12 (QSAR) - Aquatic Toxicity Data 2. Europe Action Data 7. METI (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentrat | Endpoint         Test Duration (hr)         Species           Not<br>Available         Not Available         Not Available         Not Available           Endpoint         Test Duration (hr)         Species           EC50(ECx)         24h         Algae or other aquatic plants           EC50         72h         Algae or other aquatic plants           LC50         96h         Fish           EC50         48h         Crustacea           Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information         V3.12 (QSAR) - Aquatic Toxicity Data 2. Europe ECHA Registered Substances - Aquatic Toxicity Data 5. ECD Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | Endpoint         Test Duration (hr)         Species         Value           Not<br>Available         Not Available         Not Available         Not Available         Not<br>Available           Endpoint         Test Duration (hr)         Species         Value           EC50(ECx)         24h         Algae or other aquatic plants         0.08mg/l           EC50         72h         Algae or other aquatic plants         29.23mg/l           LC50         96h         Fish         0.617mg/L           EC50         48h         Crustacea         18.9mg/l           Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. E         V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard A           V3.12 (QSAR) - Aquatic Toxicity Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data         Substances - Ecotox contabase - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard A |

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Continued...

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

#### Ecotoxicity:

The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5

For Acetic Acid: Acetic acid and its salts (the acetates) can be grouped together because of their close structural relationships, their natural occurrence in plants and animals, and their fundamental role in cell metabolism.

Atmospheric Fate: Acetic acid is degraded photochemically in the atmosphere to produce hydroxyl radicals (estimated typical half-life of 22 days). Physical removal of acetates on atmospheric particulates may occur via wet or dry deposition.

Aquatic Fate: Natural water will neutralize dilute solutions of acetic acid. Spills of acetic acid on soil will readily biodegrade - the biodegradation rate for acetic acid after 14 days and under aerobic conditions is 74 days. Acetic acid is not expected to bioconcentrate in aquatic systems. Drinking water standards: none available.

Terrestrial Fate: Spills of acetic acid on soil will readily biodegrade - the biodegradation rate for acetic acid after 14 days under aerobic conditions is 74 days. Ecotoxicity: Acetic acid is not acutely toxic to fish or invertebrates.

### DO NOT discharge into sewer or waterways

#### Persistence and degradability

| Ingredient                | Persistence: Water/Soil | Persistence: Air |
|---------------------------|-------------------------|------------------|
| acetic acid glacial       | LOW                     | LOW              |
| Bioaccumulative potential |                         |                  |
|                           |                         |                  |

| Ingredient          | Bioaccumulation      |
|---------------------|----------------------|
| acetic acid glacial | LOW (LogKOW = -0.17) |
| Mobility in soil    |                      |
| Ingredient          | Mobility             |
| acetic acid glacial | HIGH (KOC = 1)       |

## **SECTION 13 Disposal considerations**

#### Waste treatment methods Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: • If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorized landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails) Product / Packaging disposal This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorized landfill.

#### **SECTION 14 Transport information**

| Labels Required   |  |  |
|---|--|--|
| Marine Pollutant  | NO   |  |
| Land transport (ADG): NOT RE<br>Air transport (ICAO-IATA / DGF<br>Sea transport (IMDG-Code / GC | GULATED FOR TRANSPORT OF DANGEROUS GOODS<br>R): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS<br>GVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS |  |

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

### Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name        | Group         |
|---------------------|---------------|
| acetic acid glacial | Not Available |

| Transport in bulk in accordance        | e with the ICG Code                      |  |        |
|--|--|--|--------|
| Product name                           | Ship Type                                |  |        |
| acetic acid glacial                    | Not Available                            |  |        |
| SECTION 15 Regulatory info             | ormation                                 |  |        |
| Safety, health and environment         | tal regulations / legislation specific f | or the substance or mixture  |        |
| acetic acid glacial is found on the    | e following regulatory lists             |  |        |
| US ACGIH Threshold Limit Values (      | (TLV)                                    | US NIOSH Recommended Exposure Limits (RELs)                          |        |
| US AIHA Workplace Environmental        | Exposure Levels (WEELs)                  | US OSHA Permissible Exposure Limits (PELs) Table Z-1                 |        |
| US CWA (Clean Water Act) - List of     | Hazardous Substances                     | US Toxic Substances Control Act (TSCA) - Chemical Substance Inve     | tancos |
|  |  | So TOOA Onemical Substance Intentiory - Intentin List of Active Subs | lances |
| Federal Regulations                    |  |  |        |
| Superfund Amendments and R             | eauthorization Act of 1986 (SARA)        |  |        |
| Section 311/312 hazard categories      | s  |  |        |
| Flammable (Gases, Aerosols, Liqui      | ids, or Solids)                          |  | No     |
| Gas under pressure                     |  |  | No     |
| Explosive                              |  |  | No     |
| Self-heating                           |  |  | No     |
| Pyrophoric (Liquid or Solid)           |  |  | No     |
| Pyrophoric Gas                         |  |  | No     |
| Corrosive to metal                     |  |  | No     |
| Oxidizer (Liquid, Solid or Gas)        |  |  | No     |
| Organic Peroxide                       |  |  | No     |
| Self-reactive                          |  |  | No     |
| In contact with water emits flammal    | ble gas                                  |  | No     |
| Combustible Dust                       |  |  | No     |
| Carcinogenicity                        |  |  | No     |
| Acute toxicity (any route of exposur   | re)                                      |  | No     |
| Reproductive toxicity                  |  |  | No     |
| Skin Corrosion or Irritation           |  |  | Yes    |
| Respiratory or Skin Sensitization      |  |  | No     |
| Serious eye damage or eye irritatio    | n  |  | Yes    |
| Specific target organ toxicity (single | e or repeated exposure)                  |  | No     |
| Aspiration Hazard                      |  |  | No     |
| Germ cell mutagenicity                 |  |  | No     |
| Simple Asphyxiant                      |  |  | No     |
| Hazards Not Otherwise Classified       |  |  | No     |
| US. EPA CERCLA Hazardous Sub           | bstances and Reportable Quantities (40 0 | CFR 302.4)   |        |

| Name                | Reportable Quantity in Pounds (Ib) | Reportable Quantity in kg |
|---------------------|------------------------------------|---------------------------|
| acetic acid glacial | 5000                               | 2270                      |

## State Regulations

US. California Proposition 65 None Reported

## National Inventory Status

| National Inventory                                 | Status                   |
|--|--------------------------|
| Australia - AIIC / Australia<br>Non-Industrial Use | Yes                      |
| Canada - DSL                                       | Yes                      |
| Canada - NDSL                                      | No (acetic acid glacial) |
| China - IECSC                                      | Yes                      |
| Europe - EINEC / ELINCS / NLP                      | Yes                      |
| Japan - ENCS                                       | Yes                      |
| Korea - KECI                                       | Yes                      |
| New Zealand - NZIoC                                | Yes                      |
| Philippines - PICCS                                | Yes                      |
| USA - TSCA   | Yes                      |
| Taiwan - TCSI                                      | Yes                      |

Gene Choice®



| National Inventory | Status   |
|--------------------|--|
| Mexico - INSQ      | Yes  |
| Vietnam - NCI      | Yes  |
| Russia - FBEPH     | Yes  |
| Legend:            | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

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## **SECTION 16 Other information**

#### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

#### **Definitions and abbreviations**

PC-TWA: Permissible Concentration-Time Weighted Average PC-STEL: Permissible Concentration-Short Term Exposure LimitIARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure  $\mathsf{Limit}_\circ$ IDLH: Immediately Dangerous to Life or Health Concentrations ES: Exposure Standard OSF: Odor Safety Factor NOAEL: No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odor Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index AIIC: Australian Inventory of Industrial Chemicals DSL: Domestic Substances List NDSL: Non-Domestic Substances List IECSC: Inventory of Existing Chemical Substance in China EINECS: European Inventory of Existing Commercial chemical Substances ELINCS: European List of Notified Chemical Substances NLP: No-Longer Polymers ENCS: Existing and New Chemical Substances Inventory KECI: Korea Existing Chemicals Inventory NZIoC: New Zealand Inventory of Chemicals PICCS: Philippine Inventory of Chemicals and Chemical Substances TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas NCI: National Chemical Inventory FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances Powered by AuthorITe, from Chemwatch.

