Section 1. Identification

Product Identifier  KOCHKLEEN® 180
General Use  Specialty Cleaners – Industrial application
Physical Description  Liquid

Manufacturer/Importer/Supplier/Distributor Information

Company Name  John R Hess & Company, Inc.
Address  400 Station St
           Cranston, RI 02910
           USA
Telephone  (401) 785-9300  (800) 556-4377
E-mail  custerv@jrhess.com
Emergency Phone Numbers  Chemtrec 1-800-424-9300 (Spill, Leak, Fire, Exposure, Accident)
                     +1 (703) 527-3887 (outside USA)

Section 2. Hazards Identification

OSHA/HCS status  This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture  SKIN CORROSION - Category 1
                                               SERIOUS EYE DAMAGE - Category 1
                                               SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

GHS label elements

Hazard pictograms

Signal word  Danger

Hazard statements  Causes severe skin burns and eye damage.
                   May cause respiratory irritation.
Precautionary statements

Prevention

Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.

IF SWALLOWED: Immediately call a POISON CENTER or physician.

Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

Not known.

Section 3. Composition/information on ingredients

Substance / Mixture

Mixture

Other means of identification

Not Available

CAS number/other identifiers

CAS number

Not applicable.

Product code

70

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Other names</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic acid</td>
<td>Lactic acid</td>
<td>10-30</td>
<td>50-21-5</td>
</tr>
<tr>
<td>Citric acid</td>
<td>Citric acid</td>
<td>10-30</td>
<td>77-92-9</td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs</td>
<td>Benzenesulfonic acid, C10-16-alkyl derivs</td>
<td>5-10</td>
<td>68584-22-5</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

Get medical attention immediately. Call a poison center or physician. 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.
Inhalation

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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.

Skin contact

Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, 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.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Most important symptoms/effects acute and delayed

Potential acute health effects

Eye contact Causes serious eye damage
Inhalation May cause respiratory irritation.
Skin contact Causes severe burns.
Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:
  pain
  watering
  redness
Inhalation Adverse symptoms may include the following:
  respiratory
  tract
  irritation
  coughing
Skin contact Adverse symptoms may include the following:
  pain or irritation
  redness
  blistering may occur
Ingestion Adverse symptoms may include the following:
stomach pains

**Indication of immediate medical attention and special treatment needed if necessary**

**Notes to physician**  
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**  
No specific treatment.

**Protection of first-aiders**  
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 it, or wear gloves.

See toxicological information (Section 11)

### SECTION 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**  
Use an extinguishing agent suitable for the surrounding fire.

Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).

**Unsuitable extinguishing media**  
Do not use water jet.

**Specific hazards arising from the chemical**  
In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products**  
Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides

**Special protective actions for fire-fighters**  
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.

**Special protective equipment for fire-fighters**  
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

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**  
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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**  
If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**  
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).

**Methods and materials for containment and cleaning up**

**Small spill**  
Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble,
Large spill

absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. 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). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. 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.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). 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. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

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

Conditions for safe storage including any incompatibilities

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. Store locked up. Separate from alkalis. 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

Control parameters

Occupational exposure limit values

None

Appropriate engineering controls

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
Environmental exposure controls

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.

Individual protection measures

Hygiene measures

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.

Eye/face protection

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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection:

Hand protection

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Recommended or statutory limits.
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. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other Skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

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.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid (clear)</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow (light)</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>0.75 mg/m³ (Nitric acid)</td>
</tr>
<tr>
<td>pH</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt;0°C (&lt;32°F)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>100°C (212°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower &amp; Upper explosion limits</td>
<td>Not available</td>
</tr>
<tr>
<td>(flammable)</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Similar to water</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>SADT</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Physical/chemical properties comments</td>
<td>Solution/Anionic</td>
</tr>
</tbody>
</table>
Section 10. Stability and Reactivity

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

Chemical stability
The product is stable.

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

Conditions to avoid
No specific data

Incompatible materials
Reactive or incompatible with the following materials: oxidizing materials. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.

Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>disodium decyl (sulphonatophenoxy) benzenesulphonate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1420 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>lactic acid citric acid Benzenesulfonic acid, C10-16-alkyl derivs</td>
<td>LD50 Oral LD50 Oral LD50 Dermal LD50 Oral</td>
<td>Rat Rat Rabbit</td>
<td>3543 mg/kg 3 g/kg 2000 mg/kg 775 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Category</td>
<td>Route of exposure</td>
<td>Target organs</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>----------</td>
<td>-------------------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Lactic acid</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
<td></td>
</tr>
<tr>
<td>Citric acid</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
<td></td>
</tr>
</tbody>
</table>

**Sensitization**
Not available

**Mutagenicity**
Not available

**Carcinogenicity**
Not available

**Reproductive toxicity**
Not available

**Teratogenicity**
Not available

**STOT-single exposure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic acid</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
<tr>
<td>Citric acid</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**STOT-repeated exposure**

Not available

**Aspiration hazard**
Not available

**Information on likely routes of exposure**
Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Route of entry</th>
<th>Health effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Adverse symptoms may include the following: pain or irritation redness blisters may occur</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Severely corrosive to the digestive tract. Causes severe burns.</td>
</tr>
</tbody>
</table>
Symptoms related to the physical, chemical and toxicological characteristics

Eye contact
Adverse symptoms may include the following:
- pain
- watering
- redness

Inhalation
No specific data.

Skin contact
Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur

Ingestion
Adverse symptoms may include the following:
- stomach pains

Delayed and immediate effects and chronic effects from short and long term exposure

Short term exposure
- Potential immediate effects: Not available
- Potential delayed effects: Not available

Long term effects
- Potential immediate effects: Not available
- Potential delayed effects: Not available

Potential chronic health effects
- General: No known significant effects or critical hazards.
- 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.

Numerical measures of toxicity

Acute toxicity estimates:

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5870.3 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>28571.4 mg/kg</td>
</tr>
</tbody>
</table>

Section 12. Ecological Information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic acid</td>
<td>Acute LC50 257.73 mg/l Fresh water</td>
<td>Fish - Oreochromis mossambicus - Adult</td>
<td>96 hours</td>
</tr>
<tr>
<td>Citric acid</td>
<td>Acute LC50 160000 µg/l Marine water</td>
<td>Crustaceans - Carcinus maenas - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs.</td>
<td>Acute EC50 5.65 mg/l Fresh water</td>
<td>Crustaceans - Ceriodaphnia dubia – Neonate</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
Not available
Bio accumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>lactic acid</td>
<td>-0.72</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>citric acid</td>
<td>-1.8</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs.</td>
<td>3.8</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil
 Soil/water partition coefficient (Koc)
 Not available

Other adverse effects
 Not available

Section 13. Disposal Considerations

**Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN3265</td>
<td>UN3265</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Corrosive liquid, acidic, organic, n.o.s. (lactic acid, Benzenesulfonic acid, C10-16-alkyl derivs.)</td>
<td>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (lactic acid Benzenesulfonic acid, C10-16-alkyl derivs.)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>
Special precautions for user
Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not available.

Section 15. Regulatory Information

<table>
<thead>
<tr>
<th>U.S. Federal regulations</th>
<th>United States inventory (TSCA 8b): All components are listed or exempted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)</td>
<td>Not listed</td>
</tr>
<tr>
<td>Clean Air Act Section 602</td>
<td>Not listed</td>
</tr>
<tr>
<td>Class I Substances</td>
<td>Not listed</td>
</tr>
<tr>
<td>Class II Substances</td>
<td>Not listed</td>
</tr>
<tr>
<td>DEA List I Chemicals</td>
<td>Not listed</td>
</tr>
<tr>
<td>(Precursor Chemicals)</td>
<td>Not listed</td>
</tr>
<tr>
<td>DEA List II Chemicals</td>
<td>Not listed</td>
</tr>
<tr>
<td>(Essential Chemicals)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

SARA302/304
Composition/information on ingredients
No products were found.

SARA 304 RQ
Not applicable.

SARA311/312
Classification
Immediate (acute) health hazard

<table>
<thead>
<tr>
<th>Composition/information on ingredients</th>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
</table>

Section 16. Other Information

Hazardous Material Information (USA)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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 SDSs under 29 CFR 1910, 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 (USA)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Revision Date 04/26/2017
Issue Date 05/14/2015
Version 2

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
UN = United Nations  

References  
HCS (U.S.A.)- Hazard Communication Standard  
International transport regulations  

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