**Section 1. Identification**

Product Identifier: KOCHTREAT® 275

General Use: Specialty Cleaner

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**

Classification of the substance or mixture:

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

Classification of the substance or mixture

Health hazards

Acute toxicity (Oral): Category 4
Skin corrosion/irritation: Category 1A – 1C
Serious eye damage/eye irritation: Category 1
Specific target organ toxicity (single exposure): Category 2

Label Elements

Globally Harmonized System (GHS) Classification and Labeling GHS

Signal Word: DANGER
Hazard Statements
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H371 - May cause damage to organs (kidney, liver, spleen).

Precautionary Statements
Prevention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+311 - If exposed or concerned: Call a POISON CENTER/Doctor.
P310 - Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment see Response/First aid section on this label.
P330 - If exposed or concerned: Call a POISON CENTER/Doctor.
P363 - Wash contaminated clothing before reuse.

Storage & Disposal
P405 - Store locked up.

OSHA Regulatory Status
This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic)
Chronic
None

Inhalation
Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Mist may be severely irritating to nose, throat and lungs depending on concentration and duration of exposure.

Skin Contact
Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin. Corrosive, causes permanent skin damage (scarring).

Eye Contact
Causes severe eye irritation.
Corrosive. Will cause eye burns and permanent tissue damage.

Ingestion
Corrosive to mouth, esophagus and stomach.
Harmful if swallowed.
Low order of toxicity.

Section 3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS NO</th>
<th>Concentration</th>
<th>RTECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Hydroxyethylidene-1,1-diphosphonic acid</td>
<td>2809-21-4</td>
<td>58 - 62%</td>
<td>SZ8562100</td>
</tr>
<tr>
<td>Phosphorous acid, Ortho</td>
<td>13598-36-2</td>
<td>&lt;2.0 %</td>
<td>SZ6400000</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures
General Advice
Immediate medical attention is required.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact
Remove all contaminated clothes and shoes.
Wash off IMMEDIATELY with plenty of water for at least 15 – 20 minutes.
Call a physician.
Wash contaminated clothing before reuse.

Eye Contact
Flush eyes immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses if present and easy to do so. Continue rinsing. Call a physician.

Ingestion
Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that the stomach content doesn’t get into the lungs. Call a physician.

Signs and Symptoms of Exposure
The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

Note to Physician
Treat symptomatically and supportively.

Section 5. Fire-fighting Measures

Flammability Classification
Non-flammable

Flash Pt
NP

Explosive Limits
LEL: NA, UEL: NA

Autoignition Pt
NP

Suitable Extinguishing Media
Water spray

Unsuitable Extinguishing Media
Unknown

Protective Equipment and Precautions for Firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighting equipment/instructions
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn.

Section 6. Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled

Personal Precautions
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods & Materials for Containment and Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7. Handling and Storage
Precautions for Safe Handling

"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioned, or properly disposed of. Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing.

Storage Conditions

No special storage requirements.

Section 8. Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS NO</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Hydroxyethylidene-1,1-diphosphonic acid</td>
<td>2809-21-4</td>
<td>PEL: Not available</td>
<td>TLV: Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Phosphorous acid, Ortho</td>
<td>13598-36-2</td>
<td>PEL: Not available</td>
<td>TLV: Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear splash proof safety goggles

Skin protection:

Hand protection

Wear compatible chemical-resistant gloves.

Other

Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Respirator protection is not normally required.

General hygiene considerations

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

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required. There are no special ventilation requirements.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>None to slight odor</td>
</tr>
<tr>
<td>Odor</td>
<td>Clear to colorless light straw</td>
</tr>
<tr>
<td>pH</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>NA</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>NA</td>
</tr>
<tr>
<td>Flash point</td>
<td>NP</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>NA</td>
</tr>
<tr>
<td>Heat value</td>
<td>NP</td>
</tr>
</tbody>
</table>
Specific Gravity
Explosive limit - lower (%)  NA
Explosive limit - upper (%)  NA
Saturated Vapor Concentration  NA
Vapor pressure (vs air or mm Hg) 1)  NA
Vapor density (vs air = 1)  NA
Solubility(ies):
  Solubility (water) Complete
Partition coefficient (n-octanol/water) NA
Auto-ignition temperature  NP
Decomposition Temperature  NA
Percent Volatile  ~ 38.00 % by weight
VOC/Volume  NP
Density  ~ 12.0 LB/GA
Bulk density  NA
Particle Size  NP
Corrosion Rate  NP
Molecular formula  C2H8O7P2
Molecular weight  206.028

Section 10. Stability and Reactivity

Reactivity
Substantial heat is evolved when mixed with alkali.

Chemical Stability
Material is stable under normal conditions.

Possible of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Contact with common metals produces flammable hydrogen gas.

Incompatible materials
Strong oxidizing agents and strong alkali.

Hazardous decomposition products
Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine. Carbon dioxide.

Conditions to Avoid
No data available.

Hazardous Reactions
No data available.

Section 11. Toxicological Information

Epidemiology
No data available

Teratogenicity
No data available

Information on toxicological effects
Reproductive Effects: TDLo, Intraperitoneal, Mouse, 40.00 MG/KG, female 7 day(s) after conception.
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of
implants per female; total number of implants per corpora lutea).
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Reproductive Effects: TDLo, Intraperitoneal, Mouse, 200.0 MG/KG, female 7
day(s) after conception.
Result: Specific Developmental Abnormalities: Craniofacial (including nose and
tongue). Specific Developmental Abnormalities: Blood and lymphatic system
(including spleen and marrow).

Reproductive Effects: TDLo, Subcutaneous, Mouse, 200.0 MG/KG, female 13
day(s) after conception.
Result: Specific Developmental Abnormalities: Musculoskeletal system.
- Teratology, The International Journal of Abnormal Development, Alan R. Liss,

Reproductive Effects: TDLo, Subcutaneous, Mouse, 1400. MG/KG, female 11-17
day(s) after conception.
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
Specific Developmental Abnormalities: Musculoskeletal system.
- Senten Ijo. Congenital Anomalies., For publisher information, see CGANE7,
Osaka Japan, Vol/p/yr: 22,47, 1982

Acute toxicity, LD50, Oral, Mouse, 1800. MG/KG.
Result: Behavioral: Convulsions or effect on seizure threshold.

Gastrointestinal: Hypermotility, diarrhea.

Nutritional and Gross Metabolic: Changes in body temperature increase.
12th Ave., Deerfield Beach, FL 33441, Vol/p/yr: 14,94, 1975

Gastrointestinal: Convulsions or
effect on seizure threshold.

Nutritional and Gross Metabolic: Changes in body temperature increase.
Gigiena i Sanitariya, Mezhdunarodnaya Kniga, ul. B. Yakimanka, 39, 113095,
Moscow 113095 Russia, Vol/p/yr: 56(4),24, 1991

Acute toxicity, LD50, Oral, Rat, 1895.
MG/KG.
Result: Behavioral: Convulsions or
effect on seizure threshold.

Nutritional and Gross Metabolic: Hypermotility, diarrhea.

Gastrointestinal: Muscle contraction or spasticity.
- Toksikologicheskii Vestnik., Vol/p/yr: (6),38, 1995

Acute toxicity, LD50, Oral, Mouse, 1700. MG/KG.
Result: Behavioral: Tremor.
Behavioral: Muscle contraction or spasticity.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
</table>
| 1-Hydroxyethylidene-1,1-
diphosphonic acid | 2809-21-4 | NA  | NA   | NA    | NA   |
| Phosphorous acid, Ortho          | 13598-36-2 | NA  | NA   | NA    | NA   |

Section 12. Ecological Information
<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Hydroxyethylidene-1,1-diphosphonic acid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>LC50</td>
<td>Daphnia magna</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus)</td>
</tr>
<tr>
<td></td>
<td>LC50</td>
<td>Rainbow Trout</td>
</tr>
<tr>
<td>Phosphorous acid, Ortho</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fathead Minnow (Pimephales promelas)</td>
<td></td>
<td>100.0 mg/L, 96 hrs, Mortality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water temperature: 82.00 C (179.6 F)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 8.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10000. Mg/L, 4 hrs, Mortality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water temperature: 82.00 C (179.6 F)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH: 8.50</td>
</tr>
</tbody>
</table>

Toxicity of Photographic Processing Chemicals to Fish, Terhaar, C.J., W.S. Ewell, S.P. Dziuba, and D.W. Fassett, 1972

Persistence and Degradability
- Degrades after acclimatization.

Bioaccumulation
- This material is not expected to bio-accumulate.

Mobility in soil
- Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.

Section 13. Disposal Considerations

Disposal instructions
- Discarded product, as sold, would be considered a RCRA Characteristic Hazardous Waste as it meets the definition /characteristic of corrosivity (designated as D002).

  APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

  RCRA P-Series: None listed. RCRA U-Series: None listed

Hazardous waste code
- D002

Section 14. Transport Information
Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed

Skin Corrosion/Irritation: Category 1A-1C - Danger! Causes severe skin burns and eye damage

Serious Eye Damage/Eye Irritation: Category 1 - Danger! Causes serious eye damage

Specific Target Organ Toxicity (single exposure): Category 2 - Warning! May cause damage to organs (kidney, liver, spleen)

USA DOT
- UN Number: UN3265
- UN proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (1-Hydroxyethylidene-1, 1-diphosphonic acid)
- Transport hazard class: 8
- Packing group: II

USA LAND TRANSPORT

TDG
- TDG proper shipping name: No information available
- Transport hazard class: 8
- Packing group: II

CANADIAN LAND TRANSPORT

ADR/RID
- ADR/RID proper shipping name: No information available
- Transport hazard class: 8
- Packing group: II

EUROPEAN LAND TRANSPORT

IMDG/MFAG Number
- IMDG EM Page
- IMDG proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (1-Hydroxyethylidene-1, 1-diphosphonic acid)
- Transport hazard class: 8
- Packing group: II
- Environmental hazards: Yes
- Marine pollutant: Yes
- EmS: F-A, S-B

MARINE TRANSPORT

ICAO/IATA
- ICAO proper shipping name
- Corrosive liquid, acidic, organic, n.o.s. (1-Hydroxyethylidene-1, 1-diphosphonic acid)

AIR TRANSPORT

Section 15. Regulatory Information

EPA SARA Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>S.302 (EHS)</th>
<th>S.304 (RQ)</th>
<th>S.313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Hydroxyethylidene-1,1-diphosphonic acid</td>
<td>2809-21-4</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ortho</td>
<td>13598-36-2</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312

Immediate Hazard: Yes
Delayed Hazard: Yes
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Hydroxyethylidene-1,1-diphosphonic acid</td>
<td>2809-21-4</td>
<td>CAA, HAP, ODC</td>
</tr>
<tr>
<td>Phosphorous acid, Ortho</td>
<td>13598-36-2</td>
<td>CWA, NPDES</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>No - Inventory</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>CA PROP 65</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>TSCA</td>
</tr>
</tbody>
</table>

International Regulatory Lists

<table>
<thead>
<tr>
<th>Country(s) or Region</th>
<th>1-Hydroxyethylidene-1,1-diphosphonic acid</th>
<th>Phosphorous acid, Ortho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia (ICS)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada (DSL)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada (NDSL)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>China (IECSC)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe (REACH) (R), (P)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan (ENCS)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea (ECL)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Mexico (INSQ)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines (ICCS)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan (TCSCA)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>United States and Puerto</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rico (TSCA)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**“Yes” indicates this product complies with the inventory requirements administered by the governing country(ies).**

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

Section 16. Other Information

Hazard Rating System

HMIS

| HEALTH 3 | FLAMMABILITY 0 | PHYSICAL 1 | PPE Dn |

NFPA

| 3 | 1 |

Additional Information About This Product

NA- Not Available
NP- Not Applicable
NR- Not Required
PR- Proprietary
TS- Trade Secret
Prepared By: HSE Department
Issue Date: 05/24/2017
Version: 2
Precedes: 10/1/2015

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