



John R Hess & Company, Inc.

KOCHKLEEN® 100

Section 1. Identification

Product Identifier	KOCHKLEEN® 100
General Use	Cleaning Agent
Physical Description	Amber to light brown 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:

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

Health hazards

Skin corrosion/irritation Category 1

Serious eye damage/eye irritation Category 1

Environmental hazards

Percentage of the mixture consisting of ingredient(s) of unknown toxicity 30%

GHS Label Elements



Globally Harmonized System (GHS) Classification and Labeling GHS

Signal Word: DANGER

Hazard Statements:

Causes severe skin burns and eye damage

Precautionary Statements

Prevention Wear protective gloves, protective clothing, eye/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately, call a poison center or physician.
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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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 for at least 15 minutes. Immediately call a poison center or physician.

Storage Store locked up.

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

Hazards not otherwise classified (HNOC) Causes sever digestive tract burns.

Supplemental Information Do not taste or swallow. Wash thoroughly after handling.

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 5705

Hazardous

Ingredient name	Other names	%	CAS number
Nitric Acid	Nitric Acid	10-30	7697-37-2
Phosphoric Acid	Orthophosphoric Acid	10-30	7664-38-2

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

General Advice	Immediate medical attention is required.
Inhalation	Move 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin Contact	Wash contaminated skin with soap and 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.
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. Chemical burns must be treated promptly by a physician.
Ingestion	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.
Skin contact	Causes severe burns.
Inhalation	No known significant effects or critical hazards
Ingestion	Severely corrosive to the digestive tract. Causes severe burns.

Over-exposuresigns/symptoms:

Eye contact	Adverse symptoms may include the following: Pain Watering Redness
Skin contact	Adverse symptoms may include the following: Pain or irritation Redness

Blistering may occur

Inhalation

No specific data

Ingestion

Adverse symptoms may include the following:
Stomach pains

Indication of immediate medical attention and special treatment needed

Notes to physician

In case of inhalation of decomposition products in a fire, symptoms may be delayed.
The exposed person may need to be kept under medical surveillance for 48 hours.

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

Suitable Extinguishing Media

Use an extinguishing agent suitable for the surrounding fire.

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:
nitrogen oxides phosphorus 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.

Remark

This material will not burn or burns with difficulty.

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 & Materials for Containment and Cleaning Up	<p>Large spills: 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.</p> <p>Small spills: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</p>

Section 7. Handling and Storage

Precautions for Safe Handling	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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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 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

Occupational exposure limits

Ingredient name	Exposure limits
Nitric acid	<p>ACGIH TLV (United States, 4/2014). TWA: 2 ppm 8 hours. TWA: 5.2 mg/m³ 8 hours. STEL: 4 ppm 15 minutes. STEL: 10 mg/m³ 15 minutes.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 2 ppm 8 hours.</p>

TWA: 5 mg/m³ 8 hours.
 STEL: 4 ppm 15 minutes.
 STEL: 10 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2013).

TWA: 2 ppm 10 hours.
 TWA: 5 mg/m³ 10 hours.
 STEL: 4 ppm 15 minutes.
 STEL: 10 mg/m³ 15 minutes.

OSHA PEL (United States, 2/2013).

TWA: 2 ppm 8 hours.
 TWA: 5 mg/m³ 8 hours.

Phosphoric acid

ACGIH TLV (United States, 4/2014).

TWA: 1 mg/m³ 8 hours.
 STEL: 3 mg/m³ 15 minutes.

OSHA PEL 1989 (United States, 3/1989).

TWA: 1 mg/m³ 8 hours.
 STEL: 3 mg/m³ 15 minutes.

NIOSH REL (United States, 10/2013).

TWA: 1 mg/m³ 10 hours.
 STEL: 3 mg/m³ 15 minutes.

OSHA PEL (United States, 2/2013).

TWA: 1 mg/m³ 8 hours.

Appropriate engineering controls

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits

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, such as personal protective equipment

General hygiene considerations

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 always be worn 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,

Body protection	consisting of several substances, the protection time of the gloves cannot be accurately estimated. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
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

Appearance	
Physical State	Liquid
Color	Colorless
Odor	Acidic
Odor Threshold	0.75 mg/m ³ (Nitric acid)
pH	<1
Melting point/freezing point	Not applicable
Boiling point	100°C (212°F)
Flash point	Not applicable
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Vapor pressure	Not available
Vapor density	1.4
Relative density	Not available
Solubility(ies):	Not available
Solubility (water)	Not available
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not applicable
Viscosity	Not available
SADT	Not available

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

	not occur.
Conditions to avoid	No specific data.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials and metals. Carbides Sulfides Incompatible materials: chlorine releasers. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials: alkalis
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Information on likely routes of exposure

Inhalation	No known significant effects or critical hazards
Skin contact	Causes severe burns.
Eye contact	Causes serious eye damage.
Ingestion	Severely corrosive to the digestive tract. Causes severe burns.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include eye pain, tearing, redness and swelling, skin irritation or pain, redness and blistering. Ingested may cause stomach pains.

Information on toxicological effects

Acute toxicity

Product	Species	Test Result
<u>Phosphoric acid</u>		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg
<i>Oral</i>		
LD50	Rat	1.25 g/kg
Irritation/Corrosion	Not available	
Sensitization	Not available	

Mutagenicity

Product	Test	Experiment	Test Result
nitric acid	OECD 471 Ames test.	Experiment: In vitro Subject: Bacteria	Negative

Carcinogenicity Not available

Reproductive toxicity Not available

Specific target organ toxicity - single exposure Not available

Specific target organ toxicity - repeated exposure Not classified

Aspiration hazard Not available

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

Short-term exposure:

Potential immediate effects Not available.

Potential delayed effects Not available.

Long-term exposure:

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects Not available.

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:

Route	ATE Value
Oral	2916.7 mg/kg
Dermal	6393.3 mg/kg

Section 12. Ecological Information

Toxicity

Product	Result	Species	Exposure
Nitric acid	Acute EC50 100 to 1000 mg/l Acute LC50 72 ppm fresh water	Algae Fish - Gambusia affinis - Adult	48 hours 96 hours
Phosphoric acid	Acute EC50 105 ppm fresh water Acute LC50 60 ppm fresh water	Daphnia - Daphnia magna Fish - Lepomis macrochirus	48 hours 96 hours

Persistence and Degradability:

Product	Aquatic half-life	Photolysis	Biodegradability
Nitric acid	-	-	Readily

Bioaccumulation:

LogP	Aquatic half-life	BCF	Potential
Nitric acid	-0.21	-	Low

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal Considerations

Disposal methods

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14. Transport Information

	<u>DOT</u>	<u>IMDG</u>	<u>IATA</u>
UN Number	UN3264	UN3264	UN3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC N.O.S. (Phosphoric acid, nitric acid) RQ (nitric acid, Phosphoric acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid, nitric acid)	CORROSIVE LIQUID, ACIDIC, INORGANIC N.O.S. (Phosphoric acid, nitric acid)
Transport hazard class(es)	8	8	8
Packing group	I	I	I
Environmental hazards	No	No	No

Additional Information	<p>Reportable quantity 3333.3 lbs / 1513.3 kg [285.56 gal / 1081 L] Package sizes shipped in quantities less than the product quantity are not subject to the RQ (reportable quantity) transportation requirements.</p>	<p>Emergency schedule (EMS) F-A, S-B</p> <p>Special Provisions 274</p>	<p>Passenger and Cargo Aircraft Quantity limitation: 0.5 L Packaging instructions: 850</p> <p>Cargo Aircraft Only Quantity limitation: 2.5 L Packaging instructions: 854</p> <p>Limited Quantities Passenger Aircraft Quantity limitation: Forbidden Packaging instructions: Forbidden</p> <p>Special provisions A3, A803</p>
	<p>Limited quantity Yes.</p>		
	<p>Packaging instruction Passenger aircraft Quantity limitation: 0.5 L</p>		
	<p>Cargo aircraft Quantity limitation: 2.5 L</p>		
	<p>Special provisions A6, B10, T14, TP2, TP27</p>		
Special precautions for user	<p>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.</p>		
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code	Not available		

Section 15. Regulatory Information

US Federal Regulations	<p>United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: Phosphoric acid; nitric acid Clean Air Act (CAA) 112 regulated toxic substances: nitric acid</p>
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not listed
Clean Air Act (CAA) Section 602 Class 1 Substances	Not listed
Clean Air Act (CAA) Section 602 Class II Substances	Not listed
DEA List I Chemicals (Precursor Chemicals)	Not listed
DEA List II Chemicals (Essential Chemicals)	Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Nitric Acid	10-30	Yes	1000	85.7	1000	85.7

SARA304 RQ

3333.3 lbs / 1513.3 kg [285.6 gal / 1081 L]

SARA 311/312

Classification

Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Nitric Acid	10-30	Yes.	No.	No.	Yes.	No.
Phosphoric Acid	10-30	No.	No.	No.	Yes.	No.

SARA313

	Product name	CAS number	%
Form R - Reporting requirements	nitric acid	7697-37-2	10-30
Supplier notification	nitric acid	7697-37-2	10-30

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

US State Regulations

US. Massachusetts RTK - Substance List

Phosphoric Acid

Nitric Acid

US. New York Right-to-Know Act

Phosphoric Acid

Nitric Acid

US. Pennsylvania Worker and Community Right-to-Know Law

Phosphoric Acid

Nitric Acid

US. California Proposition 65

None of the components are listed

Section 16. Other Information

Hazardous Material Information System (USA)

Health	*	3
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.

1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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

National Fire Protection Association (NFPA) Ratings



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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.

Prepared By:	HSE Department
Issue Date:	05/20/2017
Version:	2
Precedes:	05/14/2015
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 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
Reference	HCS (U.S.A.)- Hazard Communication Standard International transport regulations

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