

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: **EKC4000™ PCT**
General Use: Post-Clean Treatment Solution
Product Description: Aqueous Solution
Revision and Date: Revision H, January 18, 2005

MANUFACTURER
EKC Technology, Inc.
2520 Barrington Court
Hayward, CA 94545-1133
(510) 784-9105

EMERGENCY PHONE NUMBERS
(800) 424-9300
CHEMTREC
24 hours/day, 7 days/week

2. COMPOSITION / INFORMATION ON INGREDIENTS

	<u>WT. %</u>	<u>CAS REGISTRY #</u>
Component A	Proprietary	Trade secret
Component B	Proprietary	Trade secret

	<u>EXPOSURE LIMITS 8 hrs. TWA (ppm)</u>		
	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>DUPONT AEL</u>
Component A	None	None	None
Component B	None	None	0.05

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear liquid with no odor. May cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS

INHALATION

May cause irritation.

EYE CONTACT

No adverse effects have been noted.

SKIN CONTACT

Prolonged or repeated exposure may cause allergic skin reaction in some people.

INGESTION

Swallowing this material may cause difficulty in breathing, headache, nausea, vomiting, drowsiness, and cyanosis.

TARGET ORGANS

Skin, respiratory tract, blood, and spleen

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Overexposure may aggravate existing dermatitis.

CARCINOGENICITY

National Toxicology Program (NTP):	Not listed
IARC Monographs:	Not listed
OSHA:	Not listed
ACGIH:	Not listed

POTENTIAL ENVIRONMENTAL EFFECTS

No adverse effects are expected.

4. FIRST AID MEASURES

INHALATION

Remove to fresh air.

EYE CONTACT

Flush eyes with water.

SKIN CONTACT

Immediately flush skin with water while removing contaminated clothing and shoes. If redness or irritation occurs, seek medical attention.

INGESTION

Seek immediate medical attention. Maintain an open airway. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN

Treat symptomatically as required by the condition of the patient.

5. FIRE FIGHTING MEASURES

Flashpoint and Method	>230°F (110°C)/Seta Flash Closed Cup ASTM 3278
Flammable Limits in Air % by volume	Lower: Not applicable Upper: Not applicable
Autoignition Temperature	Not available
Extinguishing Media	Water spray, foam, carbon dioxide, dry chemical.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Toxic vapors may be given off at high temperatures.

FIRE FIGHTING INSTRUCTIONS

Use water spray to cool containers and fire exposed surfaces. Shut off fuel to fire if possible to do so without hazard.

FIRE FIGHTING EQUIPMENT

Wear full protective clothing with self-contained positive pressure breathing apparatus.

HAZARDOUS COMBUSTION PRODUCTS

Carbon monoxide, NOx, Ammonia

6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Contain spill with absorbent material. Transfer absorbent and other contaminated materials to a UN approved covered container for disposal. Consult with Federal, State, and local regulatory agencies to determine acceptable clean-up levels. Comply with Federal, State, and local regulations on reporting releases.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE

Storage in a dry, well-ventilated area at 30° - 120°F (-1° - 49°C) is recommended.

GENERAL

Keep in original containers.
Keep away from ketones.
Prevent skin contact.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION

RESPIRATORY PROTECTION

No respiratory protection is normally required. If vapors are present, use a NIOSH approved full-face respirator with canisters or cartridges specifically approved for ammonia. Whenever cartridges or canister respirators are used, ensure the frequent changing of the filter element. Use a supplied air respirator when in doubt of the atmospheric concentration. Consult 29 CFR 1910.134 regarding use of respirators.

PROTECTIVE CLOTHING

Take all precautions to prevent skin contact. Wear Nitrile, Neoprene or Latex clothing and gloves, and chemical resistant boots when there is a probability of liquid contact.

EYE / FACE PROTECTION

Wear chemical goggles or use chemical goggles under face shield when there is a probability of liquid contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	Not available	Freezing Point:	Not available
Vapor Density:	Not available	Appearance:	Clear, Colorless
Specific Gravity:	1.00 - 1.01	Boiling Range:	214°F (101°C)
Evaporation Rate:	Not available	Odor:	None
Solubility in Water:	Complete	Physical State:	Liquid
pH:	4.0 – 4.5		

10. STABILITY AND REACTIVITY

GENERAL

This product is stable at normal temperatures and conditions of storage.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID

Ketones

HAZARDOUS DECOMPOSITION

Carbon monoxide, NOx, Ammonia

HAZARDOUS POLYMERIZATION

Will not normally occur.

11. TOXICOLOGICAL INFORMATION

DATA FOR EKC4000™ PCT:

INHALATION

No information is available on this mixture.

EYE CONTACT

FHSA score: 0.0/110, practically nonirritating.

SKIN CONTACT

LD₅₀, Rabbit: >2000 mg/kg, not harmful.

Primary Irritation Index: 0.0/8.0, practically nonirritating.

INGESTION

LD₅₀, Rat: >5000 mg/kg, not harmful. Cyanosis was noted.

GENOTOXICITY

Not mutagenic in bacterial cells in culture.

TARGET ORGANS

Skin, respiratory tract, blood, and spleen

DATA FOR COMPONENT A OF EKC4000™ PCT

INHALATION

Slightly to moderately irritating if inhaled in an aerosol.

TARGET ORGANS

Skin, eyes, and blood

DEVELOPMENTAL TOXICITY

Dietary study (rat, gestation through 28 weeks):

LOAEL \cong 3000 mg/kg, the only dose tested.

Decreased weight gain, bone weight, packed cell volume, and hemoglobin in males when given with a low calcium diet.

DATA FOR COMPONENT A OF EKC4000™ PCT (CONT.)

REPRODUCTION

Dietary study (rat, three generation, up to 16 months):

NOAEL \cong 600-1200 mg/kg, the only dose tested

SUBCHRONIC TOXICITY

Dietary study (guinea pig, 3-8 weeks):

NOAEL \cong 2000 mg/kg, the highest dose tested.

Decreased packed cell volume at doses of 400 mg/kg and higher.

Dietary study (rat, 8 weeks):

LOAEL \cong 2400 mg/kg, the only dose tested.

Decreased weight gain and packed cell volume when given with a low calcium diet.

DATA FOR COMPONENT B OF EKC4000™ PCT

SKIN CONTACT

Occupational exposure has been associated with dermatitis. Reported to be a skin sensitizer.

GENOTOXICITY

Component B and its salts have been tested in a number of short term assays using cells in culture, insects, or plants. A mixture of positive and negative results has been found.

TARGET ORGANS

Skin, eyes, respiratory tract, blood, and spleen

CHRONIC TOXICITY

Drinking water study (rat, sulfate salt, 24 months):

LOAEL = 0.2-0.4 mg/kg, the lowest doses tested

Increased incidence of spleen tumors, hyperplasia in the spleen, increased spleen weights, hemolytic anemia, and hemosiderin storage in tissues noted.

12. ECOLOGICAL INFORMATION

No data are available for EKC4000™ PCT. Data for the components are summarized below.

DATA FOR COMPONENT A OF EKC4000™ PCT

FATE

Readily biodegraded by many bacteria in soil. Not expected to bioaccumulate in aquatic organisms. Natural and widespread occurrence in plants and animals.

DATA FOR COMPONENT A OF EKC4000™ PCT (CONT.)

AQUATIC TOXICITY

24 hr EC₅₀, Daphnia magna: 1535 mg/L, not harmful.

48 hr LC₅₀, Shore crab: 160 mg/L, not harmful.

DATA FOR COMPONENT B OF EKC4000™ PCT

FATE

Rapidly oxidized to nitrates and broken down to nitrous oxide and ammonia in water.

Nitrites formed by many bacteria in soil. Converted to oximes by reaction with carbonyl groups.

AQUATIC TOXICITY

48 hr EC/LC₅₀, Daphnia magna: 1.62 mg/L, toxic.

48 hr EC/LC₅₀, Fathead minnow: 1-10 mg/L, toxic.

72 hr EC/LC₅₀, Algae: 0.72 mg/L, very toxic.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Consult 40 CFR, Parts 261 and 268, State, and local regulations for guidance on disposal of this product. Disposal of liquid product should be similar to that of other acids.

CONTAINER DISPOSAL

Empty containers retain product residue. Observe all hazard precautions. Keep away from heat, sparks, and flames. Do not distribute, make available, or reuse empty containers except for storage and shipment of original product. Remove all hazardous product residue, and puncture or otherwise destroy empty containers before disposal. Consult 40 CFR, Parts 261 and 268 for guidance on disposal.

14. TRANSPORT INFORMATION

DOT/IMO/ICAO/IATA

Proper shipping name

Not Regulated

15. REGULATORY INFORMATION

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Components of this product are listed on the TSCA Inventory.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 Hazard Categories None.

313 This product contains no substances which are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION AND LIABILITY ACT)

Reportable Quantity (RQ) Not Reportable.

We recommend you contact local authorities to determine if there may be other local reporting requirements.

16. OTHER INFORMATION

Because the health effects from exposure to EKC4000™ PCT have not been fully evaluated, exposure should be kept to the lowest level possible. This material is for industrial use and should only be used under the supervision of a technically qualified individual.

LABEL INFORMATION

NFPA CODES

Health	1
Fire	1
Reactivity	0
Specific Hazard	None

REVISION SUMMARY

Rev. H	Revision of Zip Code in Section 2 and Footer Revision of DuPont AEL in Section 2
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