



Material Safety Data Sheet

OAK KLEEN 312

HIGHLY ALKALINE CLEANER CONCENTRATE

DATE EFFECTIVE: 10-04-2007

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Oak International, Inc.
 1160 White Street
 Sturgis, MI 49091 United States

Emergency: Telephone (USA): 1-800-424-9300 (CHEMTREC)
 Telephone (OUTSIDE USA): 1-703-527-3887 (CHEMTREC)

General Information: Telephone: 1-269-651-9790

Generic Name: Water Soluble General Purpose Cleaner Concentrate

2 EMERGENCY INFORMATION

Product is alkaline. Product is strongly alkaline. Product is corrosive to aluminum. Product is corrosive to skin, eyes and aluminum. Highway spills could result in slippery conditions. No other significant health effects are associated with this material.

3 POTENTIAL HEALTH EFFECTS OF DIRECT EXPOSURE

	Product	Product at Use Dilution
Inhalation:	Not Applicable	Extended Exposure to mists may cause upper respiratory irritation. Avoid prolonged breathing of vapor. FUMES MAY IRRITATE NASAL PASSAGES.
Eye Contact:	Product is corrosive to eyes. May result in irreversible tissue damage.	May be corrosive to eyes.
Skin Contact:	Product is corrosive to skin. May result in irreversible tissue damage.	May be corrosive to skin. May result in irreversible tissue damage.
Ingestion:	Not orally toxic; however, can cause digestive tract burns or can be a pulmonary aspiration hazard if swallowed and/or vomiting occurs - can enter lungs and cause damage.	Swallowing small quantities may cause diarrhea, nausea or vomiting. Product is corrosive to the gastrointestinal tract.

Medical Conditions generally aggravated by exposure

May aggravate existing skin irritation where further defatting or skin penetration could occur.

Mild skin irritation (redness and dryness of hands) may be experienced when the diluted product has been contaminated by certain oils, by dissolved metals, or when mix ratio is too strong. When problems occur, use of water-resistant barrier creams may be a temporary control measure. Contact Oak International, Inc. Technical Services at 1-269-651-9790 for specific recommendations.

When used in applications generating high levels of mist, operator exposure can be minimized by proper ventilation, use of mist collectors or splash guards, as appropriate. If there is doubt about actual mist levels present, monitoring should be conducted. Contact Oak International, Inc. at 1-269-651-9790 for specific recommendations.

Carcinogen Listings: NTP: No IARC: No OSHA: No

Signs and symptoms of exposure

Acute

Eye injury may result from contact with product. Skin irritation can result from improper use and handling of product.

4 EMERGENCY AND FIRST AID PROCEDURES

Eyes

In case of eye contact, flush immediately with running water for at least 15 minutes, and get prompt medical attention.

Skin Contact

For skin contact flush with large amounts of water while removing contaminated clothing. Remove contaminated shoes and clothing and launder before reuse. If irritation persists, get medical attention.

Ingestion

Swallowing small quantities of diluted product may cause nausea, diarrhea or abdominal distress. Dilute by drinking water followed by fruit juice or vinegar. If the material is swallowed, DO NOT INDUCE VOMITING. Immediately contact a physician and obtain treatment.

Inhalation

Inhalation can occur in applications where high mist levels are generated. OSHA has set a PEL of 15 mg/m³ for any airborne particulate as a nuisance level of exposure. NIOSH has set a REL of 0.5 mg/m³ for metalworking fluid mist. If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention.

5 CONTROL MEASURES

Respiratory protection

Product is not volatile.

In applications where time-weighted exposures are 0.5 to 5 mg/m³, mist reduction through improved ventilation, mist collection or process modification is recommended by NIOSH. Where this is not possible, NIOSH recommends the use of any air purifying, half-mask respirator including a disposable respirator, equipped with any P- or R-series particulate filter. If the average exposure will exceed 5 mg/m³, NIOSH recommends use of a powered, air-purifying respirator equipped with a hood or helmet and a HEPA filter. If respiratory problems are present when mist levels are < 0.5 mg/m³, respiratory protection should be based on the individual recommendation of a qualified health care provider.

Caution

The appropriate use and type of respirator is dependent upon use of the product and local operating conditions.

Ventilation

For most applications, normal shop ventilation is adequate. However, when high mist levels are generated or where machines are close together or ventilation is inadequate, operators may experience respiratory irritation. For such applications, use of splash guards or mist collectors is recommended.

Eye protection

Proper metalworking plant eye protection required when handling product concentrate.

Other protective clothing or equipment

Use effective metalworking plant protective clothing as appropriate.

Work / Hygiene Practices

Good personal hygiene should always be followed.

Protective Gloves

Impervious gloves, such as nitrile gloves, are recommended when handling product concentrate.

6 HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

These ingredients may contribute to the acute product hazards listed under the Potential Health Effects section. Other substances, not hazardous under the OSHA Hazard Communication Standard, may be present. Further composition information may be available to health professionals as provided in the Standard.

Component	CAS #	Percent
POTASSIUM HYDROXIDE	1310-58-3	10 - 30
SODIUM HYDROXIDE	1310-73-2	1 - 5
AMINOTRI(METHYLENEPHOSPHONIC ACID)	6419-19-8	1 - 5

7 FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media

Not Applicable

Hazardous Combustion Products

Smoke, fumes, and oxides of carbon

Flash Point: Not Applicable

Lower Explosive Limit: Not Applicable

Upper Explosive Limit: Not Applicable

HMIS RATINGS

Health 3

Flammability Classification 0

Reactivity 1

NFPA RATINGS

Health 3

Flammability Classification 0

Reactivity 1

8 ACCIDENTAL RELEASE MEASURES

Contain the spill, collect on absorbent material, and discard as dictated by Federal, state and local regulations that may apply. Flush area thoroughly with water.

Reportable Quantity: None

9 WASTE DISPOSAL

For Used Product

Disposal procedures must comply with local, county, state and Federal regulations. If pre-treatment is needed, ultrafiltration, emulsion breaking or evaporation may be used. Contact Oak International, Inc. at 1-269-651-9790 for assistance.

For Unused Product

Product is a hazardous waste as defined under 40 CFR 261. Contact Oak International, Inc. at 1-269-651-9790 for assistance.

Empty Containers

Empty containers will contain a residue which is considered a hazardous waste under RCRA regulations.

10 HANDLING AND STORAGE

Avoid all contact of product with eyes or skin. Wash thoroughly after handling. Do not swallow. Do not store product concentrate in direct sunlight or elevated temperatures. Use only as recommended by Oak International, Inc. . Protect from freezing.

Other Precautions

Not applicable.

11 PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point:	212 °F (100 °C)
Specific Gravity:	1.34
Evaporation Rate:	Like water when diluted
Solubility (H2O):	100 %
Volatile Organic Content (by ASTM D2369):	0 %
pH (Concentrate):	14.0
pH (Mix):	13.0 @5%
Appearance/Odor:	Clear/Chemical

12 REACTIVITY

Stability

Stable under normal conditions.

Conditions to avoid

Use as directed.

Materials to avoid

Avoid contact with strong acids or oxidizers to product.

Hazardous Polymerization

Will not occur.

Combustion Products

Smoke, fumes, and oxides of carbon

13 TRANSPORTATION INFORMATION

BY LAND

Hazardous Materials Description and Proper Shipping Name (49 CFR 172.101)

Caustic alkali liquids, n.o.s. II (Contains Potassium Hydroxide and Sodium Hydroxide)

Hazard Class (49 CFR 172.101): 8

Identification Number: UN1719

Packaging Group: II

U.S. Harmonized Tariff Code: 3402.90.5050

BY AIR OR VESSEL

Hazardous Materials Description and Proper Shipping Name (49 CFR 172.101)

Caustic alkali liquids, n.o.s. II (Contains Potassium Hydroxide and Sodium Hydroxide)

Hazard Class (49 CFR 172.101): 8

Identification Number: UN1719

Packaging Group: II

14 REGULATORY INFORMATION

EXPOSURE GUIDELINES

REGULATED MATERIAL	NIOSH REL	OSHA PEL	OSHA STEL	ACGIH TLV	ACGIH STEL
POTASSIUM HYDROXIDE		2 mg/m ³		2 mg/m ³	
SODIUM HYDROXIDE		2 mg/m ³		2 mg/m ³	

CERCLA

No components of this product are present at levels which require reporting under 40 CFR 302.4.

EPCRA (SARA) TITLE III Extremely Hazardous Substances (302): None

Hazardous Substances (311/312)

Product is a hazardous substance as defined under the OSHA Hazard Communication Standard and may be reportable under the provisions of SARA Sections 311 and 312.

HAZARD CATEGORIES

Acute Health: Yes

Chronic Health: No

Fire: No

Sudden Release of Pressure: No

Reactive: Yes

RCRA

Product concentrate meets the definition of a hazardous waste as defined under 40 CFR 261.

TSCA

The ingredients of this product are on the TSCA inventory.

State Right to Know

Many states have enacted Community Right-To-Know laws which require information beyond that mandated by federal laws. Since some of these laws are inconsistent with the federal laws, the information in this sheet may not fully meet the requirements of every state.

Toxic Substances (313)

Component	CAS #	Max %	Comments
None			%

GLOSSARY OF ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EPCRA	Emergency Planning and Community Right-to-Know Act (aka SARA)
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REC	Recommended
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
STEL	Short-Term Exposure Limit
TCLP	Toxicity Characteristics Leaching Procedure
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compounds

Disclaimer

NOTE: The opinions expressed herein are those of qualified experts within Oak International, Inc. and of their suppliers. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the condition and use of the product are not within the control of Oak International, Inc. , it is the user's obligation to determine the conditions of safe use of the product.