
MATERIAL SAFETY DATA SHEET

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Revised 2/02/04
Replaces 8/12/03
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FORMULA 104**MSDS ID: N0495**

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: FORMULA 104

Product Descriptor: CHLORINATED ALKALINE FOAM CLEANER

MANUFACTURER: JOHNSON DIVERSEY, INC.

EMERGENCY PHONE NUMBER: (800) 851-7145

3630 E. KEMPER ROAD

CINCINNATI, OH. 45241

II. HAZARDOUS COMPONENTS

Component Name	CAS Number	%	Exposure Limits	Units
POTASSIUM HYDROXIDE	1310-58-3	5 - 15%	TWA - C 2	MG/M3
SOD. HYPOCHLORITE	7681-52-9	1 - 5%	None est.	

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CORROSIVE - Contains alkalis and chlorinated chemicals. Causes severe burn to skin and eyes. May be fatal if swallowed. Do not contact eyes, skin or clothing. Wear goggles, face shield, rubber gloves, and protective clothing and boots when handling products. Avoid breathing dust or spray mist. Use respiratory protection for any breathing difficulty. **TOXIC CHLORINE VAPORS** may be released by fire or mixing with acids or ammonia. Contain spill and runoff, which may cause environmental damage.

POSSIBLE ROUTES OF ENTRY: Inhalation and ingestion.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE: **EYES:** Severe burns, tissue damage, or irritation with pain, swelling, blurred or impaired vision, blindness. **SKIN:** Severe burns, tissue destruction, blisters or rash with swelling and pain. **INGESTION:** May be fatal. Severe burns to mouth and throat may result with pain, gastric perforation and difficulty in swallowing or breathing. **INHALATION:** Spray or mists cause burns or severe irritation to nose, throat and respiratory tract with pain, choking, and experience difficulty in breathing.

CHRONIC: Same as acute effects.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Dermatitis, sensitive skin, pulmonary function and asthma.

TARGET ORGAN(S) OF CHEMICAL HAZARD(S): Eyes, skin, respiratory tract, and gastrointestinal tract.

IV. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart to completely flush all chemicals from entire eye surface. Get immediate medical attention.

SKIN: Flush thoroughly with plenty of water. Wash with mild soap and water. Remove contaminated clothes and shoes and clean before reuse. Get medical attention for any painful, red or injured skin.

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IV. FIRST AID MEASURES (Cont.)

INGESTION: If swallowed, rinse mouth with water. Dilute by drinking several glasses of water. DO NOT induce vomiting. If patient vomits, rerinse mouth. Get immediate medical attention. NOTE: Never give fluids by mouth to an unconscious person.

INHALATION: If inhaled, move to fresh air. If patient is not breathing, give artificial respiration. If breathing is difficult, give oxygen under the direction of trained personnel or a physician. Get immediate medical attention.

V. FIRE FIGHTING MEASURES

FLASH POINT (degrees F): NONE FLAME EXTENSION: N/A
FLAMMABLE LIMITS IN AIR BY VOLUME: LEL: N/E UEL: N/E
UNUSUAL FIRE OR EXPLOSIVE HAZARDS: Burning or decomposition may form hydrogen chloride or other toxic gasses.
EXTINGUISHING MEDIA: Water, water spray, CO2, foam or dry powder.
FIRE FIGHTING INSTRUCTIONS: Wear full protective gear and positive pressure breathing apparatus SCBA) in fire area.
SPECIAL INSTRUCTIONS: Spilled product may cause slippery surface and fall hazard.

VI. ACCIDENTAL RELEASE MEASURES

IF MATERIAL IS RELEASED OR SPILLED:
Contain spill. Wear protective clothing. Soak up or absorb liquid on suitable absorbent material. Collect and place in chemical waste container. Dispose of in accordance with local, State and Federal regulations. Flush spill area with water.
This product does not contain a reportable quantity (RQ) under CERCLA.

VII. HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS: CHLORINATED PRODUCT. Do not mix or store with acids or ammonia containing chemicals. Toxic chlorinated gasses may be released. Keep container closed when not in use. Wear protective gear when handling or using product. Protect from high temperatures.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE/FACE PROTECTION: Safety glasses with side shields. Chemical goggles if contact or splash hazard exists. Face shields.
PROTECTIVE GLOVES: Alkali resistant.
RESPIRATORY PROTECTION: Product does not have any established exposure limits. NIOSH/MSHA approved respirator recommended in enclosed or confined spaces where high air concentration or long exposure may occur.
OTHER PROTECTIVE CLOTHING/EQUIPMENT: Rubber boots and chemical resistant apron if contact or splash hazard exists. Eyewash and safety shower in area if contact or splash hazard exists.
ENGINEERING CONTROLS:
VENTILATION: Good general ventilation should be sufficient to control airborne

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VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont.)

levels.

IX. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Clear yellow liquid, chlorine odor.

BOILING POINT (DEG F): >200

FREEZING POINT: <50 F

SPECIFIC GRAVITY/BULK DENSITY: 1.18

pH: >13

pH 1% SOLUTION: 12.93

VOLATILE BY VOLUME: 77.15

SOLUBILITY IN WATER: Soluble

VAPOR PRESSURE(mmHg): 17.5 at 20 C

VAPOR DENSITY: 17.3

X. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Product stable.

INCOMPATIBILITY WITH OTHER MATERIALS: Acids; Flammable liquids; Amines; Soft metals; Organic halogens

HAZARDOUS DECOMPOSITION PRODUCTS: Incomplete combustion forms; hydrogen chloride, chlorine and chlorinated compounds; oxides of nitrogen

HAZARDOUS POLYMERIZATION: None known.

XI. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No data available.

TOXICITY TEST DATA:

Potassium Hydroxide :

Acute Oral LD50 (rat) - 365 mg/kg (RTECS)

Acute Skin LD50 (rabbit) - 1260 mg/kg (MSI)

Sodium Hypochlorite:

Acute Oral LD50 (rat) - 2840 mg/kg (PTI)

XII. ECOLOGICAL INFORMATION

Toxicological testing has not been performed on the product. Listed below is the available toxicology test data for components of the product.

ECOTOXICITY TEST DATA:

Potassium Hydroxide:

Acute LC50 (96 hr.) (Pimephles promelas) - 179 mg/l

Acute LC50 (96 hr.) (Daphnia magna) - 60 mg/l

ENVIRONMENTAL FATE: No data available.

XIII. DISPOSAL CONSIDERATIONS

RCRA REGULATED: CONCENTRATED PRODUCT IS CONSIDERED D002-CORROSIVE, IF DECLARED HAZARDOUS WASTE.

Spent or excess product is hazardous waste. Do not discharge to sewer or environment. Arrange disposal through a licensed disposal company or treat by special Waste Disposal Sheet. Recycle or dispose of containers by product labeling or governmental regulations.

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XIV. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up to date shipping information.

XV. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA: All ingredients in this product are on TSCA inventory.

HAPS: NONE

VOC CONTENT (EPA Method 24A): % VOC: 0 Lb/Gal VOC: 0

CERCLA/EPCRA:

Section 313 Toxic Chemicals:

NONE

SARA Section 311/312:

ACUTE: YES CHRONIC: NO FIRE: NO REACTIVITY: NO

SUDDEN RELEASE OF PRESSURE: NO

LISTED CARCINOGEN: None

NTP: NO IARC: NO OSHA: NO

HMIS RATINGS: HEALTH: 3 FIRE: 0 REACTIVITY: 0

PERSONAL PROTECTIVE EQUIPMENT: D

NFPA RATING: HEALTH: 3 FIRE: 0 REACTIVITY: 0 SPECIAL: ALKALI

STATE RIGHT-TO-KNOW INFORMATION:

WATER - CAS# 7732-18-5

POTASSIUM HYDROXIDE - CAS# 1310-58-3

SODIUM HYPOCHLORITE - CAS# 7681-52-9

SODIUM XYLENE SULFONATE - CAS# 1300-72-7

TETRADECYLDIMETHYLAMINE OXIDE - CAS# 3332-27-2

CALIFORNIA PROPOSITION 65:

None of the ingredients are on the California proposition 65 list.

XVI. OTHER INFORMATION

DISCLAIMER: The information contained in this material safety data sheet is based on the knowledge of this specific product and current national legislation. It applies to the product as sold, use dilutions may be less hazardous. It may not be valid for this material if used in combination with any other materials or in a process. It is the user's responsibility to evaluate the handling, and use.