

Safety Data Sheet



Zep, Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-I-BUY-ZEP (428-9937)
www.zep.com

Section 1. Chemical Product and Company Identification

Product name FS FORMULA 4089
Product use Cleaner.
Product code 2465
Date of issue 03/18/13 **Supersedes** 02/15/12

Emergency Telephone Numbers

For MSDS Information:

Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency

(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency

CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By

Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Section 2. Hazards Identification

Emergency overview

*Hazard Determination System (HDS): Health, Flammability, Reactivity

DANGER!

CAUSES EYE AND SKIN BURNS. HARMFUL IF SWALLOWED.



NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects

Routes of Entry

Dermal contact. Eye contact.

Eyes

Causes eye burns. Direct contact with the eyes can cause irreversible damage, including blindness.

Skin

Causes skin burns. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

Inhalation

Avoid breathing vapors, spray or mists. Over-exposure by inhalation may cause respiratory irritation. Liquid, spray or mist may produce tissue damage, particularly to mucous membranes of eyes, mouth and respiratory tract.

Ingestion

Harmful if swallowed. May cause burns to mouth, throat and stomach.

Chronic effects

Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Carcinogenicity

No known significant effects or critical hazards.

Product/ingredient name

Not available.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients

	CAS number	% by Weight
sodium hydroxide	1310-73-2	1 - 10
Sodium hypochlorite solution Cl active	7681-52-9	1 - 10
dodecyltrimethylamine oxide	1643-20-5	1 - 5

Section 4. First Aid Measures

- Eye Contact** Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin Contact** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.
- Inhalation** Move exposed person to fresh air. If irritation persists, get medical attention.
- Ingestion** Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If affected person is conscious, give plenty of water to drink. Get medical attention immediately.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)



- Flash Point** Not available.
- Flammable Limits** Not available.
- Flammability** Non-combustible.
- Fire hazard** In a fire or if heated, a pressure increase will occur and the container may burst. May emit toxic fumes under fire conditions.
- Fire-Fighting Procedures** Use an extinguishing agent suitable for the surrounding fire.

Section 6. Accidental Release Measures

- Spill Clean up** Put on appropriate personal protective equipment (see section 8). 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.

Section 7. Handling and Storage

- 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. Wash thoroughly after handling. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** 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. 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. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection**Product name**

sodium hydroxide

Exposure limits

ACGIH TLV (United States, 2/2010).
C: 2 mg/m³

OSHA PEL 1989 (United States, 3/1989).
CEIL: 2 mg/m³

NIOSH REL (United States, 6/2009).
CEIL: 2 mg/m³

OSHA PEL (United States, 6/2010).
TWA: 2 mg/m³ 8 hour(s).

AIHA WEEL (United States, 5/2010).
STEL: 2 mg/m³ 15 minute(s).

Sodium hypochlorite solution Cl active

Personal Protective Equipment (PPE)

- Eyes** Splash goggles. Face shield.
- Body** Wear appropriate protective clothing to prevent skin contact. Recommended: Rubber gloves. Neoprene gloves. Nitrile gloves. Synthetic apron. Chemical resistant boots.
- Respiratory** Avoid breathing vapors, spray or mists. Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Wear appropriate respirator when ventilation is inadequate.



Section 9. Physical and Chemical Properties

Physical State Liquid. [Clear.]
pH >13
Boiling Point 100°C (212°F)
Specific Gravity 1.17
Solubility Soluble in the following materials: cold water and hot water.

Color Yellow or Light Green
Odor Bleach-like Odor
Vapor Pressure Not available.
Vapor Density Not available.
Evaporation Rate <1 (Water = 1)

VOC (Consumer) 0 % (w/w)

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.
Incompatibility Reactive or incompatible with the following materials: oxidizing materials and reducing materials.
Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.
Hazardous Decomposition Products carbon oxides (CO, CO₂), hydrogen chloride

Section 11. Toxicological Information**Acute Toxicity**

Not available.

Section 12. Ecological Information

Environmental Effects Not available.

Aquatic Ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Sodium hypochlorite solution Cl active	-	Acute EC50 46000 ug/L Marine water	Algae - Red algae - Gracilaria tenuistipitata	4 days
	-	Acute LC50 56400 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	-	Acute LC50 32 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute LC50 32 ug/L Marine water	Fish - Coho salmon, silver salmon - Oncorhynchus kisutch - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
sodium hydroxide	-	Acute EC50 40.38 mg/L Fresh water	Crustaceans - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute LC50 125000 ug/L Fresh water	Fish - Western mosquitofish - Gambusia affinis - Adult	96 hours

Section 13. Disposal Considerations**Waste Information**

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Code: D002
 Classification: Hazardous waste
 Origin: RCRA waste.

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	3266	Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide)	8	II	
IMDG Class	UN3266	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide, Sodium Hypochloride). Marine pollutant (Sodium hypochlorite solution Cl active)	8	II	

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information**U.S. Federal Regulations**

SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 311: Sodium hypochlorite solution Cl active; sodium hydroxide

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

State Regulations

California Prop 65 No products were found.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.*