Safety Data Sheet

Zep, Inc.
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1-877-I-BUY-ZEP (428-9937)
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Section 1. Chemical Product and Company Identification

Product name **FORMULA 448**

Product use Coil Cleaner.

Product code **1203**

Date of issue **07/28/14** **Supersedes 05/24/10**

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
1259 Seaboard Industrial Blvd.
Atlanta, GA 30318

Section 2. Hazards Identification

Emergency overview

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

2 0 0

DANGER!

CAUSES EYE BURNS. CAUSES SKIN IRRITATION. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN.

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. Inhalation.

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

Skin Causes skin irritation. Harmful if absorbed through the skin. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

Inhalation Avoid breathing vapors, spray or mists. Inhalation of the spray or mist may produce severe irritation of respiratory tract, characterized by coughing, choking or shortness of breath. Can cause central nervous system (CNS) depression.

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

Chronic effects Contains material which may cause damage to the following organs: blood, kidneys, liver, spleen, lymphatic system, upper respiratory tract, skin, bone marrow, central nervous system (CNS), eye, lens or cornea. Overexposure of this product by inhalation or absorption can produce central nervous system depression resulting in headache, nausea and/or dizziness.

Carcinogenicity Classification No known significant effects or critical hazards.

Additional information: See toxicological information (Section 11)

Section 3. Composition/Information on Ingredients

Name	CAS number	%
Butoxyethanol; 2-butoxyethanol	111-76-2	1 - 5
Sodium Metasilicate; disodium metasilicate	6834-92-0	1 - 5
sodium dodecylbenzenesulfonate	25155-30-0	1 - 5
Tetrasodium EDTA; tetrasodium ethylene diamine tetraacetate	64-02-8	1 - 5

Section 4. First Aid Measures

Eye Contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention immediately.

Skin Contact Flush affected skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops.

Inhalation Move exposed person to fresh air. Get medical attention if adverse health effects persist or are severe.

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. Get medical attention immediately.

Section 5. Fire Fighting Measures

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

Flash Point None.

Flammable Limits Not applicable

Flammability Non-combustible.

Fire hazard May emit toxic fumes under fire conditions.

Fire-Fighting Procedures Use an extinguishing agent suitable for the surrounding fire. Do not release runoff from fire to drains or watercourses.

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 or 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). Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Use with adequate ventilation. Do not ingest. Do not reuse container. Wash thoroughly after handling. Observe label precautions.

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. Store between the following temperatures: 40°F - 120°F (4.4°C - 49°C). Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Ingredient	Exposure limits
Butoxyethanol; 2-butoxyethanol	**OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** TWA: 25 ppm 8 hours. TWA: 120 mg/m³ 8 hours. **NIOSH REL (United States, 1/2013). Absorbed through skin.** TWA: 5 ppm 10 hours. TWA: 24 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2012).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 6/2010). Absorbed through skin.** TWA: 50 ppm 8 hours. TWA: 240 mg/m³ 8 hours.

Personal Protective Equipment (PPE)

Eyes Splash goggles.

Body Wear appropriate protective clothing to prevent skin contact. Recommended: Neoprene gloves. Nitrile gloves. Rubber gloves. Synthetic apron.

Respiratory 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 11.5 to 13.5

Boiling Point 104.44°C (220°F)

Specific Gravity 1.07

Solubility Easily soluble in the following materials: cold water and hot water.

Color Blue. [Dark]

Odor Mild.

Vapor Pressure Not available.

Vapor Density Not available.

Evaporation Rate 1 (Water = 1)

VOC (Consumer) 4 % (w/w) 0.355 lbs/gal (42.5 g/l)

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Hazardous Decomposition Products carbon oxides (CO, CO_2) and sulfur oxides (SO_2, SO_3 etc.)

Section 11. Toxicological Information

Product/ingredient name	Result	Species	Dose	Exposure
Sodium Metasilicate; disodium metasilicate	LD50 Oral	Rat	1153 mg/kg	-
Butoxyethanol; 2-butoxyethanol	LC50 Inhalation Gas.	Rat	450 ppm	4 hours
	LD50 Dermal	Rabbit	220 mg/kg	-
	LD50 Oral	Rat	250 mg/kg	-
sodium dodecylbenzenesulfonate	LD50 Oral	Rat	438 mg/kg	-
Tetrasodium EDTA; tetrasodium ethylene diamine tetraacetate	LD50 Oral	Rat	10 g/kg	-

Section 12. Ecological Information

Environmental Effects Not available.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Sodium Metasilicate; disodium metasilicate	Acute EC50 33.53 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 2320 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 160 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
Butoxyethanol; 2-butoxyethanol	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
sodium dodecylbenzenesulfonate	Acute EC50 29000 µg/l Fresh water	Algae - Chlorella pyrenoidosa - Exponential growth phase	96 hours
	Acute EC50 7.81 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 5.88 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 112.4 mg/l	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 1.18 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
Tetrasodium EDTA; tetrasodium ethylene diamine tetraacetate	Acute EC50 610 mg/l	Daphnia	24 hours
	Acute LC50 486000 µg/l Fresh water	Fish - Lepomis macrochirus	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: Corrosive Hazardous waste
Origin: RCRA waste.

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	Not regulated.	-	-	-	
IMDG Class	Not regulated.	-	-	-	

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:

Product name

Butoxyethanol; 2-butoxyethanol

Clean Water Act (CWA) 311: sodium dodecylbenzenesulfonate

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.*

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