

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Material name : ZEP CALCIUM, LIME &amp; RUST REMOVER

Material number : ZUCAL128

**Manufacturer or supplier's details**

Company : Zep Inc.

Address : 350 Joe Frank Harris Parkway, SE  
Emerson, GA 30137

Telephone : 404-352-1680

**Emergency telephone numbers****For SDS Information** : Compliance Services 1-877-428-9937**For a Medical Emergency** : 877-541-2016 Toll Free - All Calls Recorded**For a Transportation** : CHEMTREC: 800-424-9300 - All Calls Recorded.**Emergency** : In the District of Columbia 202-483-7616**Recommended use of the chemical and restrictions on use**Recommended use : Bathroom Care Maintenance  
Cleaner

Note: This product is labeled as a consumer product in accordance with the United States Consumer Product Safety Commission regulations. The warnings presented below in this Safety Data Sheet (SDS) comply with the 2012 OSHA Hazard Communication Standard (GHS - Globally Harmonized System of Classification and Labeling). The requirements for the labeling and warnings of consumer products may differ from those required for GHS based hazard communication.

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Appearance	liquid
Colour	light yellow
Odour	pungent

**GHS Classification**

Skin corrosion : Category 1

Serious eye damage : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

Precautionary statements : **Prevention:**  
 P264 Wash skin thoroughly after handling.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
 P363 Wash contaminated clothing before reuse.  
**Storage:**  
 P405 Store locked up.  
**Disposal:**  
 P501 Dispose of contents/container in accordance with local regulation.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration [%]
urea hydrochloride	506-89-8	>= 10 - < 20
2-hydroxyethanoic acid	79-14-1	>= 1 - < 3
citric acid	77-92-9	>= 1 - < 3
Alcohols, C9-11, ethoxylated	68439-46-3	>= 1 - < 3

The exact percentages of disclosed substances are withheld as trade secrets.

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
 Get medical attention immediately.  
 Show this safety data sheet to the doctor in attendance.  
 Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.  
 If symptoms persist, call a physician.  
 Move to fresh air.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

- Take off contaminated clothing and shoes immediately.  
Wash contaminated clothing before re-use.  
If skin irritation persists, call a physician.  
Wash off immediately with plenty of water for at least 15 minutes.  
Thoroughly clean shoes before reuse.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If swallowed : Keep respiratory tract clear.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
DO NOT induce vomiting unless directed to do so by a physician or poison control center.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Effects are dependent on exposure (dose, concentration, contact time).  
Effects are immediate and delayed.  
Symptoms may include blistering, irritation, burns, and pain.  
Causes severe skin burns and eye damage.  
Review section 2 of SDS to see all potential hazards.
- Notes to physician : Treat symptomatically. Symptoms may be delayed.

---

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Smoke  
Nitrogen oxides (NO<sub>x</sub>)  
Chlorine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

be disposed of in accordance with local regulations.  
Standard procedure for chemical fires.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.

Environmental precautions : Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

---

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Oxidizing agents  
Keep away from metals.  
Store and keep away from bases and alkalis.

---

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Engineering measures** : effective ventilation in all processing areas

**Personal protective equipment**

Respiratory protection : Use respiratory protection unless adequate local exhaust

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection	
Material	: Protective gloves
Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	: Access to clean water to rinse eyes must be available, options include: eye wash stations or showers, or eye wash bottles with pure water. Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Colour	: light yellow
Odour	: pungent
Odour Threshold	: No data available
pH	: < 1
Melting point/freezing point	: Not applicable
Boiling point	: 100 °C
Flash point	: does not flash
Evaporation rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: 1.067 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: not determined

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, kinematic	: No data available

---

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Stable
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Oxidizing agents Organic materials Metals Bases
Hazardous decomposition products	: Carbon oxides Chlorine Nitrogen oxides (NO <sub>x</sub> ) Sulphur oxides Ammonia gas may be liberated at high temperatures.

---

**SECTION 11. TOXICOLOGICAL INFORMATION**
**Potential Health Effects**

Aggravated Medical Condition	: None known.
Symptoms of Overexposure	: Effects are dependent on exposure (dose, concentration, contact time). Effects are immediate and delayed. Symptoms may include blistering, irritation, burns, and pain.

**Carcinogenicity:**
**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Acute toxicity****Product:**

Acute oral toxicity : Acute toxicity estimate : 4,197 mg/kg  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

**Components:****citric acid:**

Acute oral toxicity : LD50 Oral Rat: 5,400 mg/kg

Acute dermal toxicity : LD50 Dermal Rabbit: > 2,000 mg/kg

**Alcohols, C9-11, ethoxylated:**

Acute oral toxicity : LD50 Oral Rat: 1,400 mg/kg

**Skin corrosion/irritation****Product:**

Remarks: Extremely corrosive and destructive to tissue.

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

**Aspiration toxicity**

No data available

**Further information****Product:**

Remarks: No data available

---

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Partition coefficient: n-octanol/water : Remarks: No data available

**Components:****2-hydroxyethanoic acid :**

Partition coefficient: n-octanol/water : log Pow: -1.11

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

Regulation

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information

: No data available

---

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues

: Do not dispose of waste into sewer.



**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

Do not contaminate ponds, waterways or ditches with chemical or used container.  
Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION**

Transportation Regulation: 49 CFR (USA):  
UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (SULFAMIC ACID), 8, II

Transportation Regulation: IMDG (Vessel):  
UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (SULFAMIC ACID), 8, II

Transportation Regulation: IATA (Cargo Air):  
UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (SULFAMIC ACID), 8, II

Transportation Regulation: IATA (Passenger Air):  
UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (SULFAMIC ACID), 8, II

Transportation Regulation: TDG (Canada):  
UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., (SULFAMIC ACID), 8, II

The product as delivered to the customer conforms to packaging requirements for shipment by road under US Department of Transportation (DOT) regulations. Additional transportation classifications noted above are for reference only, and not a certification or warranty of the suitability of the packaging for shipment under these alternative transport regulations.

**SECTION 15. REGULATORY INFORMATION**

**TSCA list** : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
hydrochloric acid	7647-01-0	5000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**ZEP CALCIUM, LIME & RUST REMOVER**

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

- SARA 311/312 Hazards** : Skin corrosion or irritation  
Serious eye damage or eye irritation
- SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

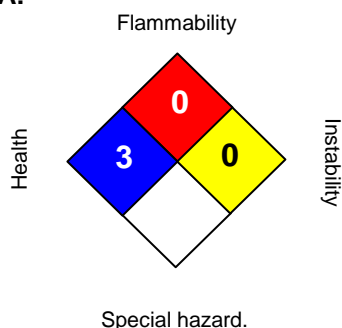
**The components of this product are reported in the following inventories:**

- TSCA** On TSCA Inventory  
**DSL** All components of this product are on the Canadian DSL

For information on the country notification status for other regions please contact the manufacturer's regulatory group.

**Inventory Acronym and Validity Area Legend:**

TSCA (USA), DSL (Canada), NDSL (Canada)

**SECTION 16. OTHER INFORMATION****Further information****NFPA:****HMIS III:**

<b>HEALTH</b>	<b>3</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

**OSHA - GHS Label Information:**

## ZEP CALCIUM, LIME &amp; RUST REMOVER

Version 4.0

Revision Date 07/20/2018

Print Date 09/17/2018

Hazard pictograms :



Signal word :

**Danger:**

Hazard statements :

Causes severe skin burns and eye damage.

Precautionary statements :

**Prevention:** Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.**Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse.**Storage:** Store locked up.**Disposal:** Dispose of contents/container in accordance with local regulation.

Version:	4.0
Revision Date:	07/20/2018
Print Date:	09/17/2018

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.