

## Section 1. Identification

Product name : GUARDION™ 401 CLEANER  
™ a trademark of Baker Hughes Incorporated.  
Product code : GRD401

### Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Membrane cleaner.

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Version : 1

Supplier's details : Baker Petrolite  
A Baker Hughes Company  
12645 W. Airport Blvd.  
Sugar Land, TX 77478  
For Product Information/MSDSs Call: 800-231-3606  
(8:00 a.m. - 5:00 p.m. cst, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)  
Baker Petrolite: 800-231-3606  
(001)281-276-5400  
CANUTEC: 613-996-6666 (Canada 24 hours)  
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

## Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

### Precautionary statements

Prevention : Wear protective gloves: > 8 hours (breakthrough time): PVC gloves. Nitrile gloves.  
Wear eye or face protection. Wear protective clothing. Wash hands thoroughly after handling.

## Section 2. Hazards identification

- Response** : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. 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 or physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
Potassium hydroxide	5 - 10	1310-58-3

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

## Section 4. First aid measures

- Eye contact : Causes serious eye damage.
- Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Skin contact : Causes severe burns.
- Ingestion : May cause burns to mouth, throat and stomach.

### Over-exposure signs/symptoms

- Eye contact : pain, watering, redness
- Inhalation : No specific data.
- Skin contact : pain or irritation, redness, blistering may occur
- Ingestion : stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments : No specific treatment.
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products : carbon dioxide, carbon monoxide, metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## Section 6. Accidental release measures

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : 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.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : 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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. 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 locked up. Separate from acids. 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. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredients:	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	
Potassium hydroxide	US ACGIH OSHA PEL 1989	-	-	-	-	-	-	-	2	-	
		-	-	-	-	-	-	-	2	-	

## Section 8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Only components of this product with established exposure limits appear in the box above.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves: PVC gloves. Nitrile gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Yellow.
- Odor** : None.
- Odor threshold** : Not available.
- pH** : >13
- Appearance** : Neat - without dilution.
- Melting/freezing point** : 0°C (32°F)
- Boiling point** : Not available.
- Initial Boiling Point** : Not available.
- Flash point** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.18 (20°C)
- Density** : 9.83 (lbs/gal)

## Section 9. Physical and chemical properties

Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: Not available.

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Highly reactive or incompatible with the following materials: combustible materials, organic materials, metals and moisture. Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. Corrosive to mild steel and aluminum.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

No applicable toxicity data

#### Irritation/Corrosion

No applicable toxicity data

#### Sensitization

No applicable toxicity data

#### Mutagenicity

No applicable toxicity data

#### Carcinogenicity

No applicable toxicity data

#### Reproductive toxicity

No applicable toxicity data

#### Teratogenicity

No applicable toxicity data

#### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

Not applicable.

**Specific target organ toxicity (repeated exposure)**

Not applicable.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Dermal, Inhalation.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

Route	ATE value
Oral	6666.7 mg/kg

## Section 12. Ecological information

**Toxicity**

Product/ingredient name	Result	Species	Exposure
Potassium hydroxide	Acute LC50 80 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

**Persistence and degradability**





Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1814	UN1814	UN1814	UN1814
UN proper shipping name	POTASSIUM HYDROXIDE, SOLUTION	POTASSIUM HYDROXIDE, SOLUTION	POTASSIUM HYDROXIDE, SOLUTION	POTASSIUM HYDROXIDE, SOLUTION
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	<u>Emergency schedules (EmS)</u> F-A S-B	-

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

**DOT Reportable Quantity** Potassium hydroxide, 1356 gal of this product.

**Marine pollutant** Not available.

**North-America NAERG** : 154

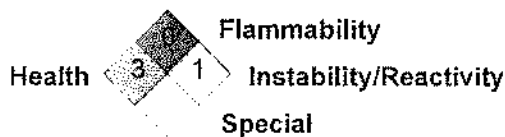


## Section 15. Regulatory information

- U.S. Federal regulations** :
- TSCA 12(b) one-time export: No products were found.
  - TSCA 12(b) annual export notification: No products were found.
  - United States inventory (TSCA 8b): All components are listed or exempted.
  - Clean Water Act (CWA) 307: No products were found.
  - Clean Water Act (CWA) 311: Potassium hydroxide
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed
- SARA 302/304** : No products were found.
- SARA 311/312 Classification** : Immediate (acute) health hazard
- SARA 313 Supplier notification** : No products were found.
- Canada**
- Canada (CEPA DSL): : All components are listed or exempted.

## Section 16. Other information

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



### History

Date of printing : 2/9/2015.

☑ Indicates information that has changed from previously issued version.

### Notice to reader

NOTE: The information on this MSDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

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