



Material Safety Data Sheet

1. Product and company identification

Product name : GUARDION™ 9405 CLEANER
™ a trademark of Baker Hughes, Inc.

Supplier : 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

Material Uses : Special: Resin Cleaner.

Code : GRD9405

Validation date : 1/7/2014.

Print date : 1/7/2014.

Version : 6.01

Responsible name : Global Regulatory Affairs - Telephone 281-276-5400 or 800-231-3606

In case of emergency : 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)

2. Hazards identification

Physical state : Liquid. [Clear.]

Odor : Odorless.

Color : Water-white.

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

Emergency overview : DANGER!
CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. ASPIRATION HAZARD.
Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Inhalation : Corrosive to the respiratory system.

Ingestion : Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause burns to mouth, throat and stomach.

Skin : Corrosive to the skin. Causes burns.

Eyes : Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

Target organs : Contains material which may cause damage to the following organs: kidneys, mucous membranes, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS), nose/sinuses, throat.

Over-exposure signs/symptoms

2. Hazards identification

- Inhalation** : respiratory tract irritation, coughing
- Ingestion** : stomach pains, nausea or vomiting
- Skin** : pain or irritation, redness, blistering may occur
- Eyes** : pain, watering, redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Citric acid	77-92-9	10 - 30
Organic phosphonate	2809-21-4	1 - 5
Oxalic acid	144-62-7	1 - 5

4. First aid measures

- Eye contact** : Get medical attention immediately. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open.
- Skin contact** : Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- 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.
- 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. Wear suitable protective clothing and gloves. Remove contaminated clothing and shoes.

Additional information

If product is ingested and vomiting occurs naturally, have person lean forward to reduce the risk of aspiration into the lungs.

5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
 - Suitable** : Use an extinguishing agent suitable for the surrounding fire.
 - Not suitable** : None known.
- Special exposure hazards** : 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.
- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide, phosphorus oxides
- 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.

6 . Accidental release measures

Personal precautions : 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 (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with an inert material. 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.) 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.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Separate from alkalis. 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.

8 . Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredients:	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
Oxalic acid	US ACGIH	-	1	-	-	2	-	-	-	-	
	OSHA PEL	-	1	-	-	-	-	-	-	-	
	OSHA PEL 1989	-	1	-	-	2	-	-	-	-	

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.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8 . Exposure controls/personal protection

- Engineering measures** : Use only with adequate ventilation. 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.
- 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. Ensure that eyewash stations and safety showers are close to the workstation location. Take off contaminated clothing and wash before reuse.
- Personal protection**
- Respiratory** : 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.
- Hands** : Chemical-resistant gloves: Nitrile or Neoprene gloves.
- Eyes** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
- Skin** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

9 . Physical and chemical properties

- Physical state** : Liquid. [Clear.]
- Flash point** : Closed cup: >100°C (>212°F) [PMCC]
- Auto-ignition temperature** : Not available.
- Flammable limits** : Not available.
- Color** : Water-white.
- Odor** : Odorless.
- pH** : <1 [Conc. (% w/w): 100%]
: Neat - without dilution.
- Boiling/condensation point** : >100°C (>212°F)
- Initial Boiling Point** : Not available.
- Melting/freezing point** : -7.79°C (18°F)
- Relative density** : 1.208 (25°C)
- Density** : 10.06 (lbs/gal)
- Vapor density** : >1 [Air = 1]
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- VOC** : Not available.
- Viscosity** : Not available.
- Solubility (Water)** : Soluble
- Vapor pressure** : Not available.
- Pour Point** : -7.8°C (18°F)
- Partition coefficient (LogKow)** : Not available.

10 . Stability and Reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Conditions of reactivity	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Citric acid	LD50 Oral	Rat	3 g/kg	-
Organic phosphonate	LD50 Oral	Rat	2400 mg/kg	-

Chronic toxicity Remarks

1) Citric acid

Citric acid is a component of this product. Frequent intake of citrated beverages may cause erosion of dental enamel and irritation of mucous membranes (Clayton & Clayton, 1994). The potassium and sodium salts have mild diuretic effects when taken in gram quantities daily (Clayton & Clayton, 1994). Citric acid has generally been nontoxic in experimental animals. Rabbits tolerated up to 7.7% in the diet with no effect (Clayton & Clayton, 1994). It has been reported to have allergenic properties, however (Clayton & Clayton, 1994), and might cause contact dermatitis.

2) Organic phosphonate

This product contains Organic phosphonate. Organic Phosphonate has produced some reproductive and teratogenic effects in test animals. Reproductive effects such as decreased implantations and decreased live fetuses were been reported following oral dosing in rats (HSDB). Teratogenicity was evaluated in pregnant rats orally exposed by gavage to Organic phosphonate. Significant differences were observed between treated and control animals with respect to a decreased incidence of soft tissue abnormalities (HSDB).

3) Oxalic acid

Oxalic acid is a component of this product. Oxalic acid is very dangerous because of its acidic and chelating properties. Oxalic acid is especially toxic by ingestion, where as little as 5 grams may be fatal. Oxalic acid can immobilize the blood and bind calcium to form a complex which is insoluble at body pH. This complex precipitates in the kidney tubules and also in the brain. The physical blockage in the tubules is the cause of kidney damage. In addition, the decrease in calcium in the blood stream can produce severe disturbance in actions of the heart and nervous system which can lead to death. Inhalation of oxalic mist over a long period has caused weight loss and inflammation of the respiratory tract. Chronic skin exposure to oxalic acid solutions may cause localized pain and gangrenous changes to the fingers.

12 . Ecological information

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Citric acid	Acute LC50 160000 µg/l Marine water	Crustaceans - Green crab - Carcinus maenas - Adult	48 hours
Oxalic acid	Acute EC50 136900 to 150000 µg/l Fresh water	Daphnia - Water flea - Daphnia magna - Larvae	48 hours

Conclusion/Summary : Not available.

Biodegradability

12. Ecological information

Conclusion/Summary : Not available.





13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: Oxalic acid)	8	III		-
TDG Classification	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: Oxalic acid)	8	III		-
IMDG Class	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: Oxalic acid)	8	III		Emergency schedules (EmS) F-A S-B
IATA-DGR Class	UN3265	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: Oxalic acid)	8	III		-

PG* : Packing group

DOT Reportable Quantity : Not applicable.

Marine pollutant : Not applicable.

North-America NAERG : 153

15. Regulatory information

HCS Classification : Corrosive material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
TSCA 12(b) one-time export: Oxalic acid

CERCLA: Hazardous substances.: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

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

15 . Regulatory information

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.
 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
 Delayed (chronic) health hazard
 United States inventory (TSCA 8b) : All components are listed or exempted.

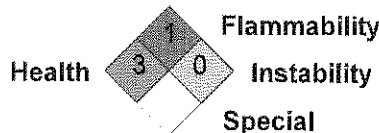
Canada

WHMIS (Canada) : Class D-1B: Material causing immediate and serious toxic effects (Toxic).
 Class E: Corrosive material
 Canada (CEPA DSL): : All components are listed or exempted.

16 . Other information

Label requirements : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. ASPIRATION HAZARD.

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



Date of printing : 1/7/2014.

☑ 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.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

November 27, 2012

Guardlon 9405

Aquatic Toxicity

Static Acute Freshwater

Species: Fathead minnow (*Pimephales promelas*)
Method: EPA/600/4-90/027
Test Procedure: Definitive
Duration: 96-Hour
Temperature: 25 C
Sample Prep: Water Soluble Stock
Renewal: None
Comments:

<u>Results</u>	<u>Values</u>
Lethal Concentration 0%	125 ppm
Lethal Concentration 50%, 96 hrs	268 ppm
Lethal Concentration 100%, 96 hrs	500 ppm

Species: *Ceriodaphnia dubia*
Method: EPA/600/4-90/027
Test Procedure: Definitive
Duration: 48-Hour
Temperature: 25 C
Sample Prep: Water Soluble Stock
Renewal: None
Comments:

<u>Results</u>	<u>Values</u>
Lethal Concentration 0%	< 62.5 ppm
Lethal Concentration 50%, 48 hrs	150 ppm
Lethal Concentration 100%, 48 hrs	250 ppm

