



Material Safety Data Sheet

1. Product and company identification

Product name : TRETOLITE™ RBW255 WATER CLARIFIER
™ 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: Reverse demulsifier.

Code : RBW255

Validation date : 10/18/2010.

Print date : 10/18/2010.

Version : 4

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.

Odor : Pungent.

Color : Amber.

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

Emergency overview : WARNING!
HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and 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 : Toxic by inhalation. Irritating to respiratory system.

Ingestion : Harmful if swallowed.

Skin : Harmful in contact with skin. Severely irritating to the skin.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

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, the nervous system, liver, mucous membranes, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Re-exposure signs/symptoms

Inhalation : respiratory tract irritation, coughing

2. Hazards identification

- Ingestion** : None known.
Skin : irritation, redness
Eyes : pain or irritation, 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)

Additional information

Corrosive to aluminum and steel.

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Aluminum chloride	7446-70-0	10 - 30
Polyquaternary amine	Trade secret.	5 - 10
Propargyl alcohol	107-19-7	1 - 5

4. First aid measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
- 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. 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.

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, nitrogen oxides, halogenated compounds, metal oxide/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.

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

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. 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). 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
Aluminum chloride, as Al Propargyl alcohol	OSHA PEL 1989	-	2	-	-	-	-	-	-	-	[A]
	US ACGIH	1	2.3	-	-	-	-	-	-	-	[1]
	OSHA PEL 1989	1	2	-	-	-	-	-	-	-	[1]

[1]Absorbed through skin.

Notes: [A]as Al

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.

8 . Exposure controls/personal protection

- Engineering measures** : Use only with adequate ventilation. 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 re-use.
- 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 other protective clothing to prevent repeated or prolonged skin contact.

9 . Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: >93.4°C (>200.1°F) [SFCC]
- Auto-ignition temperature** : Not available.
- Flammable limits** : Not available.
- Color** : Amber.
- Odor** : Pungent.
- pH** : 2.6
- : 5% of product in 75% isopropanol / 25% water solution
- Boiling/condensation point** : Not available.
- Initial Boiling Point** : Not available.
- Melting/freezing point** : Not available.
- Relative density** : 1.259 (15.6°C)
- Density** : 10.49 (lbs/gal)
- Vapor density** : >1 [Air = 1]
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- VOC** : Not available.
- Viscosity** : Dynamic (25°C): 47.4 cP
- Solubility (Water)** : Soluble
- Vapor pressure** : 6.1 kPa (45.7 mm Hg) at 22°C
- Pour Point** : -40°C (-40°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 and metals.
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
Aluminum chloride	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	3450 mg/kg	-
Propargyl alcohol	LD50 Dermal	Rabbit	88 mg/kg	-
	LD50 Dermal	Rabbit	16 mg/kg	-
	LD50 Oral	Rat	55 mg/kg	-
	LD50 Oral	Rat	20 mg/kg	-
	LC50 Inhalation	Rat	1.8 gm/m ³	2 hours
	Vapor			
	LC50 Inhalation	Rat	873 ppm	2 hours
Gas.				
	LC50 Inhalation	Rat	520 ppm	4 hours
	Vapor			

Chronic toxicity Remarks

1) Aluminum chloride

Aluminum chloride is a component of this product. Some aluminum workers are at risk for developing respiratory manifestations of aluminum toxicity, mainly asthma, chronic obstructive lung disease, and pulmonary fibrosis. Aluminum welders and polishers, and in workers involved in manufacturing alumina abrasives or explosives from stamped aluminum powders (Abramson et al, 1989; Dinman, 1987). Chronic interstitial pneumonia (pneumonia in the spaces of the lung tissue, but not within the lung cavity) with severe cavitations in the right upper lobe and small cavities in the rest of both lungs were reported in a man exposed to aluminum dust for 3.2 years (Stokinger, 1981). Workers involved in aluminum smelting may be at increased risk of developing chronic obstructive lung disease (Abramson et al, 1989).

2) Polyquaternary amine

Not available.

3) Propargyl alcohol

Propargyl alcohol is a component of this product. Exposure may damage the liver and kidneys.

It has produced in vitro mutagenicity in animal studies. (Blakey, D.H. et al, 1994) and (Basu, A.K. and L.J. Marnett, 1984) Chronic inhalation of propargyl alcohol has caused nasal tumors and mononuclear cell leukemia in laboratory animals. National Toxicology Program Technical Report (2008).

12 . Ecological information

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

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	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains: Aluminum chloride)	8	III		-
TDG Classification	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains: Aluminum chloride)	8	III		-
IMDG Class	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains: Aluminum chloride)	8	III		Emergency schedules (EmS) F-A S-B

PG* : Packing group

DOT Reportable Quantity Propargyl alcohol, 6485 gal of this product.

Marine pollutant Not applicable.

North-America NAERG : 154

15 . Regulatory information

HCS Classification : Toxic material
Irritating material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

15 . Regulatory information

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Aluminum chloride; prop-2-yn-1-ol

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

TRETOLITE™ RBW255 WATER CLARIFIER: Immediate (acute) health hazard,
Delayed (chronic) health hazard

CERCLA: Hazardous substances.: prop-2-yn-1-ol: 1000 lbs. (454 kg); Formaldehyde:
100 lbs. (45.4 kg);

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

Clean Water Act (CWA) 311: Formaldehyde

Clean Air Act (CAA) 112 accidental release prevention: Formaldehyde

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

Clean Air Act (CAA) 112 regulated toxic substances: Formaldehyde

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Supplier notification	: Propargyl alcohol	107-19-7	1 - 5
United States inventory (TSCA 8b)	: All components are listed or exempted.		

Canada

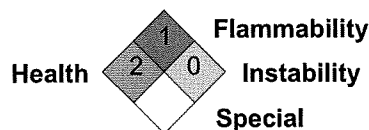
WHMIS (Canada) : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material

Canada (CEPA DSL): : All components are listed or exempted.

16 . Other information

Label requirements : HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

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



Date of printing : 10/18/2010.

☑ 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.

16 . Other information

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.