



# Material Safety Data Sheet

## 1. Product and company identification

**Product name** : SpectraFloc™ 675 FLOCCULANT  
™ 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: Cationic Emulsion Polymer

**Code** : SPC675

**Validation date** : 12/30/2009.

**Print date** : 12/30/2009.

**Version** : 6

**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** : Hydrocarbon. [Slight]

**Color** : Opaque.

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

**Emergency overview** : WARNING!  
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER. ASPIRATION HAZARD.  
Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, 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** : Can cause central nervous system (CNS) depression. Irritating to respiratory system.

**Ingestion** : Can cause central nervous system (CNS) depression. Aspiration hazard if swallowed. Can enter lungs and cause damage.

**Skin** : Moderately irritating to the skin.

**Eyes** : Irritating to eyes.

**Potential chronic health effects**

**Chronic effects** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

**Carcinogenicity** : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.

### Over-exposure signs/symptoms

## 2. Hazards identification

- Inhalation** : respiratory tract irritation, nausea or vomiting, coughing, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness
- Ingestion** : nausea or vomiting
- Skin** : irritation, redness, dryness, cracking
- Eyes** : pain or irritation, watering, redness

See toxicological information (section 11)

## 3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Cationic acrylamide copolymer	Trade secret.	30 - 60
Petroleum distillates	64742-47-8	10 - 30
Carboxylic acid	Trade secret.	1 - 5
Ethoxylated alcohol	Trade secret.	1 - 5
Acrylamide	79-06-1	0 - 0.1

## 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.

### 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, nitrogen oxides, halogenated compounds
- 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 <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
Petroleum distillates Acrylamide	US ACGIH	-	200	-	-	-	-	-	-	-	[1]
	US ACGIH	-	0.03	-	-	-	-	-	-	-	[1]
	OSHA PEL	-	0.3	-	-	-	-	-	-	-	[1]
	OSHA PEL 1989	-	0.03	-	-	-	-	-	-	-	[1]

[1] Absorbed through skin.

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.

**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.

## 8 . Exposure controls/personal protection

**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** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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: Butyl rubber gloves. Nitrile 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) [PMCC]

**Auto-ignition temperature** : Not available.

**Flammable limits** : Not available.

**Color** : Opaque.

**Odor** : Hydrocarbon. [Slight]

**pH** : 4 to 6

: 5% in water

**Boiling/condensation point** : 149 to 177°C (300.2 to 350.6°F)

**Initial Boiling Point** : Not available.

**Melting/freezing point** : Not available.

**Relative density** : 1 (15.6°C)

**Density** : 8.33 (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** : -18°C (-0.4°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** : Avoid exposure - obtain special instructions before use. Do not swallow.

**Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials. Do not use iron, copper, or aluminum for transportation, handling, or storage.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 10. Stability and Reactivity

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
Acrylamide	LD50 Dermal	Rabbit	1870 mg/kg	-
	LD50 Dermal	Rabbit	1150 mg/kg	-
	LD50 Dermal	Rat	400 mg/kg	-
	LD50 Dermal	Rabbit	1680 uL/kg	-
	LD50 Oral	Rabbit	150 mg/kg	-
	LD50 Oral	Rat	124 mg/kg	-

### Carcinogenicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Petroleum distillates	A3	-	-	-	-	-
Acrylamide	A3	2A	-	+	Possible	None.

### Chronic toxicity Remarks

#### 1) Cationic acrylamide copolymer

Not available.

#### 2) Petroleum distillates

These petroleum distillates may cause slight irritation of the eyes. Repeated or prolonged skin contact with the liquid may cause irritation, reddening, and dermatitis. Inhalation of high vapor concentrations may cause headaches, stupor, irritation of the throat, central nervous system depression, and kidney effects. Extreme aspiration into the lungs may cause chemical pneumonia or death. Low order of oral toxicity. Ingestion can cause irritation of the stomach and intestines which can produce nausea and vomiting. Vomiting should be avoided since aspiration of ingested material into the lungs may produce chemical pneumonia.

#### 3) Carboxylic acid

Not available.

#### 4) Ethoxylated alcohol

Not available.

#### 5) Acrylamide

Acrylamide is a component of this product. The major effects of chronic acrylamide exposure are on the nervous system. Exposure to acrylamide for a few days or weeks can produce lassitude (weariness), drowsiness, sleepiness, loss of concentration, nervousness, irritability, loss of body coordination, speech and language disturbances, jerking of the eye, and urinary retention (ACGIH, 1991). Peripheral neuropathy with primarily motor and proprioceptive disturbances (interruptions in the ability of the muscles, tendons, and other internal tissue to receive stimuli), may follow 2 to 3 weeks later (Igisu et al, 1975).

In chronic low-dose exposure, effects are predominantly sensorimotor (mixed bed fibers containing sensory and motor nerves) and proprioceptive neuropathies (interruptions in the nerves ability to receive stimuli) with loss of deep tendon reflexes, muscle weakness and wasting, distal extremity numbness, paresthesias (abnormal burning, pricking, tickling or tingling), foot drop, and persistent ataxia (Auld & Bedwell, 1967; Garland & Patterson, 1967; Fullerton, 1969; Satchell & McLeod, 1981). In severe cases, residual ataxia, loss of reflexes, distal extremity weakness, and sensory disturbances may remain (Donovan & Pearson, 1987; Fullerton, 1969). Persons exposed for more than 22 weeks showed little recovery in peripheral neural function (outer neurons) after one year (Cavigneaux & Cabasson, 1972; Kesson et al, 1977; He et al, 1989). Rats and hens exposed to 12, 25, or 50 mg/kg of acrylamide 3 times per week for 3 weeks developed ataxia (staggering gait). Both peripheral and central nervous system damage were seen in rats, while hens developed only peripheral nerve lesions (Jortner & Ehrich, 1993).

In a two year study in rats where acrylamide was administered in the drinking water, an increased incidence of scrotal

## 11. Toxicological information

mesotheliomas (a rare abnormal increase in tissue growth in the scrotum), central nervous system tumors, thyroid tumors and tumors at other sites were described.

Acrylamide has been reported to be genotoxic in many test systems. Acrylamide inhibited DNA synthesis in rat cells in vitro (RTECS, 1996). Acrylamide induced chromosome aberrations in mice in vivo, in mouse lymphocytes and hamster lung cells, and in cultured human lymphocytes (white blood cells) (RTECS, 1996; HSDB, 1996). Sister chromatid exchanges were seen in rats and mice in vivo, and in hamster lung cells (RTECS, 1996).

IARC has classified acrylamide as a Group 2A carcinogen [probable human carcinogen (human evidence is inadequate, animal evidence is sufficient)]. NTP has classified acrylamide as a suspect carcinogen, and OSHA has classified acrylamide as a Group 2A (possible select carcinogen), upgraded from a Group 2B, based on a study conducted in 1994. (LOLI)

## 12. Ecological information

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
SpectraFloc™ 675 FLOCCULANT	Acute LC50 15.5 ppm	Fish - Fathead minnow	96 hours
	Acute LC50 1.7 ppm	Daphnia - Daphnia pulex	48 hours

**Conclusion/Summary** : Not available.

### Biodegradability

**Conclusion/Summary** : Not available.

### Additional information

An EcoTox™ Report, and/or the material's environmental fate is available upon request at the following number: 1-800-235-4249, then press 4.

## 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	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-

## 14 . Transport information

PG\* : Packing group

DOT Reportable : Not applicable.

Quantity

Marine pollutant : Not applicable.

North-America NAERG : Not available.

## 15 . Regulatory information

HCS Classification : Irritating material  
Carcinogen

U.S. Federal regulations : United States inventory (TSCA 8b): All components are listed or exempted.  
TSCA 12(b) annual export notification: Acrylamide

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: Petroleum distillates

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

SpectraFloc™ 675 FLOCCULANT: Immediate (acute) health hazard, Delayed (chronic) health hazard

CERCLA: Hazardous substances.: Acrylamide: 5000 lbs. (2270 kg);

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

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

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

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

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 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Supplier notification	: Acrylamide	79-06-1	0 - 0.1

United States inventory (TSCA 8b) : All components are listed or exempted.

### Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

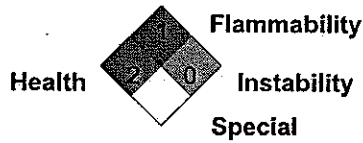
Canada (CEPA DSL): : All components are listed or exempted.

## 16 . Other information

Label requirements : INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER. ASPIRATION HAZARD.

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

**16 . Other information**



Date of printing : 12/30/2009.

☑ 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.**