



Material Safety Data Sheet

1. Product and company identification

Product name : Y9BH1246
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: Scale Inhibitor.

Code : Y9BH1246

Validation date : 7/31/2014.

Print date : 7/31/2014.

Version : 3

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 to hazy.]

Odor : None.

Color : Amber.

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. MAY BE HARMFUL 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 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 : Harmful if swallowed. 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: lungs, upper respiratory tract, skin, eyes.

Over-exposure signs/symptoms

Inhalation : respiratory tract irritation, coughing

Ingestion : stomach pains

Skin : pain or irritation, redness, blistering may occur

2. Hazards identification

- 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> |
|--------------------|-------------------|----------|
| Modified arylamine | Trade secret. | 5 - 10 |
| Sodium hydroxide | 1310-73-2 | 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, nitrogen oxides, 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. Keep away from acids. 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 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.

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 |
| Sodium hydroxide | US ACGIH | - | - | - | - | - | - | - | 2 | - | |
| | OSHA PEL | - | 2 | - | - | - | - | - | - | - | |
| | OSHA PEL 1989 | - | - | - | - | - | - | - | 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: Neoprene gloves. Viton 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 to hazy.] |
| Flash point | : Closed cup: >93.4°C (>200.1°F) [PMCC] |
| Auto-ignition temperature | : Not available. |
| Flammable limits | : Not available. |
| Color | : Amber. |
| Odor | : None. |
| pH | : 12.7 |
| | : Neat - without dilution. |
| Boiling/condensation point | : Not available. |
| Initial Boiling Point | : Not available. |
| Melting/freezing point | : Not available. |
| Relative density | : 1.2137 (15.6°C) |
| Density | : 10.11 (lbs/gal) |
| Vapor density | : >1 [Air = 1] |
| Odor threshold | : Not available. |
| Evaporation rate | : Not available. |
| VOC | : Not available. |
| Viscosity | : Dynamic (4.44°C): 96 cP |
| Solubility (Water) | : Soluble |
| Vapor pressure | : 2.4 kPa (18.1 mm Hg) @ 21.1°C (Calculated Value for all Components.) |
| Pour Point | : -15°C (5°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, acids and moisture. Do not use aluminum for transportation, handling or storage. |
| 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 |
|-------------------------|-----------|---------|-----------|----------|
| Modified arylamine | LD50 Oral | Rat | 640 mg/kg | - |

Chronic toxicity Remarks

1) Modified arylamine

Not available.

2) Sodium hydroxide

Sodium hydroxide is a component of this product. A 63-year-old man exposed to sodium hydroxide mist (as boiling lye solution) for 20 years had severe obstructive airway disease. This is the only known report of potential respiratory effects with chronic occupational sodium hydroxide exposure (Rubin et al, 1992).

Squamous cell carcinomas arise frequently in tissue healing from sodium hydroxide burns (Benedict, 1941; Bigelow, 1953; Gerami et al, 1971; Lansing et al, 1969; Schmidt-Bumler, 1970). These cicatricial (scar or relating to a scar) cancers probably arise as a result of nonspecific irritant action on the tissue and abnormalities in the regenerative process, rather than due to a specific carcinogenic effect of sodium hydroxide. Sodium hydroxide is not regarded as a human carcinogen.

Sodium hydroxide when injected directly into the amniotic fluid (0.001 M) on day 13 of pregnancy was teratogenic in rats, and slightly embryotoxic (Dostal, 1973). Boar sperm incubated directly with sodium hydroxide were destroyed (Okauchi & Ochiai, 1972).

12 . Ecological information

Aquatic ecotoxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|-----------------------------------|---|----------|
| Sodium hydroxide | Acute EC50 40.38 mg/l Fresh water | Crustaceans - Water flea - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 125 ppm Fresh water | Fish - Western mosquitofish - Gambusia affinis - Adult | 96 hours |
| Y9BH1246 | Acute EC50 2219 mg/l | Daphnia - Ceriodaphnia dubia | 48 hours |
| | Acute EC50 2505 mg/l | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 1414 mg/l | Fish - Fathead minnow | 96 hours |

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 | UN1760 | CORROSIVE LIQUID, N.O.S. (Contains: Modified arylamine, Sodium hydroxide) | 8 | III |  | - |
| TDG Classification | UN1760 | CORROSIVE LIQUID, N.O.S. (Contains: Modified arylamine, Sodium hydroxide) | 8 | III |  | - |
| IMDG Class | UN1760 | CORROSIVE LIQUID, N.O.S. (Contains: Modified arylamine, Sodium hydroxide) | 8 | III |  | Emergency schedules (EmS) F-A S-B |
| IATA-DGR Class | UN1760 | CORROSIVE LIQUID, N.O.S. (Contains: Modified arylamine, Sodium hydroxide) | 8 | - |  | - |

PG* : Packing group

DOT Reportable Quantity Sodium hydroxide, 2504 gal of this product.

Marine pollutant Not applicable.

North-America NAERG : 154

15 . Regulatory information

HCS Classification : Corrosive material
Target organ effects

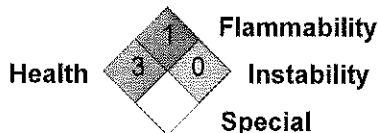
U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
CERCLA: Hazardous substances.: sodium hydroxide: 1000 lbs. (454 kg);
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: sodium hydroxide
Clean Air Act (CAA) 112 regulated 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

15 . Regulatory information

- 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 E: Corrosive material
- Canada (CEPA DSL):** : At least one component is not listed.

16 . Other information

- Label requirements** : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
- National Fire Protection Association (U.S.A.)** :



Date of printing : 7/31/2014.

☑ 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.

April 13, 2009

Baker Petrolite

Y9BH1246

Aquatic Toxicity

Static Acute Freshwater

Species: *Ceriodaphnia dubia*
Method: EPA-821-R-02-012
Test Procedure: Definitive
Duration: 48-Hour
Temperature: 20
Comments:

| <u>Results</u> | <u>Values</u> |
|--|---------------|
| Effective Concentration 50%, 24 hrs | 2462 mg/l |
| Effective Concentration 50%, 48 hrs | 2219 mg/l |
| Lethal Concentration 50%, 24 hrs | 2639 mg/l |
| Lethal Concentration 50%, 48 hrs | 2297 mg/l |
| No Observable Effect Concentration, 48 hrs | 1000 mg/l |

Species: *Daphnia magna*
Method: EPA-821-R-02-012
Test Procedure: Definitive
Duration: 48-Hour
Temperature: 20
Comments:

| <u>Results</u> | <u>Values</u> |
|--|---------------|
| Effective Concentration 50%, 24 hrs | 2780 mg/l |
| Effective Concentration 50%, 48 hrs | 2505 mg/l |
| Lethal Concentration 50%, 24 hrs | 2780 mg/l |
| Lethal Concentration 50%, 48 hrs | 2780 mg/l |
| No Observable Effect Concentration, 48 hrs | 1000 mg/l |

EcoToxTM Report



Baker Petrolite

April 13, 2009

Y9BH1246

Static Acute Renewal Freshwater

Species: Fathead minnow (*Pimephales promelas*)
Method: EPA-821-R-02-012
Test Procedure: Definitive
Duration: 96-Hour
Temperature: 20
Comments:

| <u>Results</u> | <u>Values</u> |
|--|---------------|
| Lethal Concentration 50%, 24 hrs | 1414 mg/l |
| Lethal Concentration 50%, 48 hrs | 1414 mg/l |
| Lethal Concentration 50%, 72 hrs | 1414 mg/l |
| Lethal Concentration 50%, 96 hrs | 1414 mg/l |
| Lethal Concentration 100%, 96 hrs | 2000 mg/l |
| No Observable Effect Concentration, 96 hrs | 1000 mg/l |

Page 2 of 2

Baker Petrolite Corporation and its affiliates (BPC) disclaim all warranties or representations express or implied, including any implied warranties of merchantability or fitness for a particular purpose or to the accuracy, correctness or completeness of such information herein or that reliance on such information will accomplish any particular result. All such information is furnished "as is" and by using such information the user is assuming all liabilities for the use or reliance on such information. BPC SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSSES FROM ANY CAUSE WHATSOEVER INCLUDING BUT NOT LIMITED TO ITS NEGLIGENCE.