



Material Safety Data Sheet

1. Product and company identification

Product name : BPW 76910 ANTIFOAM
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: Antifoam.
Code : BPW76910
Validation date : 6/6/2010.
Print date : 6/6/2010.
Version : 12.01
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 to hazy.]
Odor : Aromatic hydrocarbon. [Slight]
Color : Yellow. [Light]
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, EYE AND SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. 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 : Irritating to skin.
Eyes : Irritating to eyes.
Potential chronic health effects
Chronic effects : Contains material that may cause target organ damage, based on animal data. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

2. Hazards identification

- Carcinogenicity** : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.
- Target organs** : Contains material which may cause damage to the following organs: the nervous system, upper respiratory tract, immune system, skin, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

- 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
- 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> |
|---------------------------------|-------------------|----------|
| Paraffinic petroleum distillate | 64742-55-8 | 30 - 60 |
| Petroleum distillates | 64742-53-6 | 30 - 60 |
| Kerosene | 8008-20-6 | 10 - 30 |
| Fatty acid ester | Trade secret. | 5 - 10 |
| Fatty acid | 143-07-7 | 1 - 5 |
| * Ethoxylated octylphenol | Trade secret. | 1 - 5 |
| * Naphthalene | 91-20-3 | 0.1 - 1 |

Nonylphenol ethoxylate .014

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

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 |
| Petroleum distillates | US ACGIH | - | 5 | - | - | - | - | - | - | - | [a] |
| | OSHA PEL | - | 5 | - | - | - | - | - | - | - | [a] |
| Paraffinic petroleum distillate | US ACGIH | - | 5 | - | - | - | - | - | - | - | [a] |
| | OSHA PEL | - | 5 | - | - | - | - | - | - | - | |
| Kerosene | US ACGIH | - | 200 | - | - | - | - | - | - | - | [1] |
| | OSHA PEL | - | 52 | - | 15 | 79 | - | - | - | - | |
| Naphthalene | US ACGIH | 10 | 50 | - | - | - | - | - | - | - | |
| | OSHA PEL 1989 | 10 | 50 | - | 15 | 75 | - | - | - | - | |

Absorbed through skin.
Form: [a]Inhalable fraction.

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.

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: 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. [Clear to hazy.] |
| Flash point | : Closed cup: 93.9°C (201°F) [SFCC] |
| Auto-ignition temperature | : Not available. |
| Flammable limits | : Not available. |
| Color | : Yellow. [Light] |
| Odor | : Aromatic hydrocarbon. [Slight] |
| pH | : 4.3 to 5.3 |
| | : 5% of product in 75% isopropanol / 25% water solution |
| Boiling/condensation point | : Not available. |
| Initial Boiling Point | : Not available. |
| Melting/freezing point | : <0°C (<32°F) |
| Relative density | : 0.8928 (15.6°C) |

9 . Physical and chemical properties

| | |
|--------------------------------|--|
| Density | : 7.44 (lbs/gal) |
| Vapor density | : >1 [Air = 1] |
| Odor threshold | : Not available. |
| Evaporation rate | : Not available. |
| VOC | : Not available. |
| Viscosity | : Dynamic (15.6°C): 34 cP |
| Solubility (Water) | : Insoluble |
| Vapor pressure | : 0.12 kPa (0.89 mm Hg) at 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 | : Avoid exposure - obtain special instructions before use. Do not swallow. |
| Materials to avoid | : Slightly 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 |
|---------------------------------|-----------------------|------------|-------------------------|----------|
| Petroleum distillates | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| Paraffinic petroleum distillate | LC50 Inhalation Vapor | Rat | 3900 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 15 gm/kg | - |
| Kerosene | LD50 Oral | Guinea pig | 16300 mg/kg | - |
| | LD50 Oral | Rabbit | 2835 mg/kg | - |
| | LC50 Inhalation Vapor | Rat | >5000 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 4190 mg/kg | - |
| Ethoxylated octylphenol | LD50 Oral | Mouse | 3500 mg/kg | - |
| | LD50 Oral | Rat | 12 g/kg | - |
| Fatty acid | LD50 Dermal | Rabbit | >20 gm/kg | - |
| | LD50 Dermal | Rat | >2500 mg/kg | - |
| | LD50 Oral | Rat | 490 mg/kg | - |
| Naphthalene | | | | |

Carcinogenicity

Classification

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|-------------------------|-------|------|-----|-------|----------|------|
| Petroleum distillates | - | 3 | - | - | - | - |
| Kerosene | A3 | - | - | - | - | - |
| Naphthalene | A4 | 2B | - | - | Possible | - |

Chronic toxicity Remarks

11 . Toxicological information

1) Paraffinic petroleum distillate

Not available.

2) Petroleum distillates

Distillates, petroleum, hydrotreated light naphthenic is a component of this product. Mice exposed dermally to 480 g/kg of mildly hydrotreated light naphthenic mineral oil, petroleum distillates intermittently for 80 weeks developed tumors at the site of application. The mildly treated product is classified by IARC as a Group 1, Animal Sufficient Evidence. The severely treated product is classified by IARC as a Group 3, Animal Inadequate Evidence.

3) Kerosene

Kerosene is a component of this product. Chronic exposures to kerosene may cause headache, neuralgia (a pain or throbbing of the nerves), memory loss, decreased blood counts, respiratory impairment, and polyneuritis (inflammation of the peripheral nerves) (Anon, 1967). One case of fatal hypoplastic anemia (a decrease in red blood cells, that cannot be regenerated, in the bone marrow) has been reported in a person with chronic kerosene exposure (Johnson, 1955). Chronic inhalation of kerosene aerosols has induced hardening of the arteries in laboratory animals [Noa, M., et al (1987) Archives of Environmental Health 42:1:31-36].

Based on epidemiological studies (studies dealing with the distribution and determinants of human health) involving petroleum refinery workers indicate persons with routine chronic exposure to petroleum or one of its constituents may be at an increased risk to the development of benign neoplasms (rapidly growing abnormal tissue growth that is non-cancerous in nature), digestive tract cancers, and skin cancer (melanoma).

In 2003, the ACGIH has classified kerosene as A3, confirmed animal carcinogen with unknown relevance to humans. It has also shown to cause mutagenic effects in bacteria (Blackburn, G.R. et al, Cell Biology and Toxicology (1986) (2:1:63-84).

4) Fatty acid ester

Not available.

5) Fatty acid

Not available.

6) Ethoxylated octylphenol

An ethoxylated octylphenol is a component of this product. At a dose of 5 ppm in human lymphocyte cells (white blood cells), DNA was inhibited (RTECS). In mice, at a dose of 10 ppm DNA was inhibited, cell type was unspecified (RTECS).

7) Naphthalene

This product contains naphthalene. A National Toxicology Program (NTP) report concluded there is clear evidence to support carcinogenicity of naphthalene in male and female rats. These observations were based on 2-year inhalation studies in which the test animals were exposed to 10, 30, and 60 ppm naphthalene. In male and female rats, exposure to naphthalene caused significant increases in the incidence of nonneoplastic lesions of the nose (NTP TR-500). The relevance of the rodent findings to humans is questionable.

Naphthalene has caused hemolytic anemia, jaundice, cataracts (Shopp et al, 1984), allergic reactions (Tsyrukunov & Yakovleva, 1985), possible neurotoxicity (Riala et al, 1984), and aplastic anemia (Harden & Baetjer, 1978) in humans. Increased lung aveolar adenomas were seen in mice exposed to 30 ppm naphthalene for 6hrs/day for 6 months (ACGIH, 1992).

Naphthalene crosses the placenta leading to methemoglobinemia (decreased ability for the blood to carry oxygen), and/or hemolytic anemia, conditions considered especially dangerous to the unborn (Reprotex). Liver and kidney damage has also been seen with exposure to naphthalene (Reprotex).

Peripheral lens opacities occurred in 8 of 21 workers exposed to high levels of naphthalene fumes or vapors for 5 years, but cataracts have not been reported in other occupational studies. (Hathaway et al, 1991).

11 . Toxicological information

The International Agency for Research on Cancer (IARC) evaluated naphthalene and concluded that there was sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence that it causes cancer in exposed humans. Accordingly, IARC classified naphthalene as a possible human carcinogen (Group 2B).

12 . Ecological information

Aquatic ecotoxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|-----------------------|------------------------------|----------|
| BPW 76910 ANTIFOAM | Acute LC50 268.2 mg/L | Fish - Fathead minnow | 96 hours |
| | Acute LC50 4.76 mg/L | Daphnia - Ceriodaphnia dubia | 48 hours |
| | Acute LC50 0.43 mg/L | Daphnia - Daphnia magna | 48 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 | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |
| IMDG Class | Not regulated. | - | - | - | | - |

PG* : Packing group

DOT Reportable Quantity Not applicable.

Marine pollutant Not applicable.

14 . Transport information

North-America NAERG : Not available.

15 . Regulatory information

HCS Classification : Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.
TSCA 12(b) one-time export: naphthalene
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: kerosine (petroleum); Ethoxylated octylphenol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: BPW 76910 ANTIFOAM: Immediate (acute) health hazard, Delayed (chronic) health hazard
CERCLA: Hazardous substances.: naphthalene: 100 lbs. (45.4 kg);
Clean Water Act (CWA) 307: naphthalene
Clean Water Act (CWA) 311: naphthalene
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 | Naphthalene | 91-20-3 | 0.1 - 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, EYE AND SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER. ASPIRATION HAZARD.

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



Date of printing : 6/6/2010.

☑ Indicates information that has changed from previously issued version.

Notice to reader

16 . Other information

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.