

## 1 . Product and company identification

<b>Product name</b>	: MPA-1
<b>Supplier</b>	: Baker Hughes, Inc. 12645 W. Airport Blvd. Sugar Land, TX 77478 For Product Information/MSDSs Call: 281-351-8131
<b>Material Uses</b>	: Special: Bonding agent for cement
<b>Code</b>	: 415030
<b>Validation date</b>	: 12/12/2011.
<b>Print date</b>	: 12/12/2011.
<b>Version</b>	: 1
<b>Responsible name</b>	: Global Regulatory Affairs - Telephone 281-276-5400 or 800-231-3606
<b>In case of emergency</b>	: CHEMTREC 800-424-9300 (U.S. 24 hour) (001)281-276-5400 CANUTEC 613-996-6666 (Canada 24 hours)CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

## 2 . Hazards identification

<b>Physical state</b>	: Solid. [Powder.]
<b>Odor</b>	: Odorless.
<b>Color</b>	: White.
<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Emergency overview</b>	: MAY CAUSE EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER, BASED ON ANIMAL DATA.  Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat. Keep away from heat, sparks and flame. Prevent dust accumulation. Do not breathe dust. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>Routes of entry</b>	: Dermal contact. Inhalation.
<b>Potential acute health effects</b>	
<b>Inhalation</b>	: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
<b>Ingestion</b>	: No known significant effects or critical hazards.
<b>Skin</b>	: Slightly irritating to the skin.
<b>Eyes</b>	: Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.
<b>Potential chronic health effects</b>	
<b>Chronic effects</b>	: Contains material that may cause target organ damage, based on animal data. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
<b>Carcinogenicity</b>	: Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.
<b>Target organs</b>	: Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin.
<b>Over-exposure signs/symptoms</b>	
<b>Inhalation</b>	: respiratory tract irritation, coughing
<b>Ingestion</b>	: None known.

## 2. Hazards identification

- Skin** : irritation, redness
- Eyes** : 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>
Kaolin, calcined	92704-41-1	98 - 99.6
Titanium oxide	13463-67-7	0.4 - 2

## 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## 5. Fire-fighting measures

- Flammability of the product** : Fine dust clouds may form explosive mixtures with air.
- Extinguishing media**
- Suitable** : Use dry chemical powder.
- Not suitable** : Do not use water jet.
- 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products** : 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. 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

## 6 . Accidental release measures

- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
- Large spill** : 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.) Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. 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 ingest. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. 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). Eliminate all ignition sources. Separate from oxidizing materials. 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
Titanium oxide	US ACGIH	-	10	-	-	-	-	-	-	-	
	OSHA PEL	-	15	-	-	-	-	-	-	-	[a]
	OSHA PEL 1989	-	10	-	-	-	-	-	-	-	[a]

**Form:** [a]Total dust

**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. 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. Use explosion-proof ventilation equipment.
- 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

## 8 . Exposure controls/personal protection

- Respiratory** : Approved/certified disposable particulate dust mask. 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.
- 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** : Solid. [Powder.]
- Flash point** : Not available.
- Auto-ignition temperature** : Not available.
- Flammable limits** : Not available.
- Color** : White.
- Odor** : Odorless.
- pH** : 6 to 8
- Boiling/condensation point** : Not available.
- Initial Boiling Point** : Not available.
- Melting/freezing point** : >1300 °C (>2372 °F)
- Relative density** : 2 to 3
- Density** : 16.66 to 24.99 (lbs/gal)
- Vapor density** : Not available.
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- VOC** : Not available.
- Viscosity** : Not available.
- Solubility (Water)** : Insoluble
- Vapor pressure** : Not available.
- Pour Point** : Not available.
- 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 the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Conditions of reactivity** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

## 11 . Toxicological information

### Carcinogenicity

#### Classification

#### Product/ingredient name

Titanium oxide

ACGIH

A4

IARC

2B

EPA

-

NIOSH

-

NTP

-

OSHA

-

### Chronic toxicity Remarks

1) Titanium oxide

Not available.

## 12 . Ecological information

### Aquatic ecotoxicity

#### Product/ingredient name

Titanium oxide

#### Result

Acute LC50 5.5 ppm Fresh water

Acute LC50 >1000000 ug/L  
Marine waterChronic NOEC 1 ppm Fresh  
water

#### Species

Daphnia - Water flea - Daphnia  
magna - Juvenile (Fledgling,  
Hatchling, Weanling) - <24 hoursFish - Mummichog - Fundulus  
heteroclitusDaphnia - Water flea - Daphnia  
magna - Juvenile (Fledgling,  
Hatchling, Weanling) - <24 hours

#### Exposure

48 hours

96 hours

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
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-	-		-
<b>IATA-DGR Class</b>	Not regulated.	-	-	-		-

PG\* : Packing group

**DOT Reportable Quantity** Not applicable.

## 14 . Transport information

**Marine pollutant** : Not applicable.

**North-America NAERG** : Not available.

## 15 . Regulatory information

**HCS Classification** : Carcinogen  
Target organ effects

**U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.  
**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**: Titanium dioxide  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**:  
 MPA-1: Immediate (acute) health hazard, Delayed (chronic) health hazard  
 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.  
**Clean Air Act (CAA) 112 regulated toxic substances**: No products were found.  
**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** :  
 Not listed

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

### Canada

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

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

## 16 . Other information

**Label requirements** : MAY CAUSE EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER, BASED ON ANIMAL DATA.

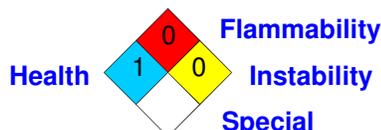
**Hazardous Material Information System (U.S.A.)** :

Health	1
Flammability	0
Physical hazards	0
Personal protection	b

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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



**Date of printing** : 12/12/2011.

## 16 . Other information

✔ 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.