HALLIBURTON

SAFETY DATA SHEET

HALAD® 688

Revision Date: 14-May-2013 **Revision Number:** 8

1. Product and Company Identification

Product Name

Product Trade Name: HALAD® 688

Other Names

Synonyms: None
Product Code: HM005189

Recommended Use

Recommended Use Cement Additive
Uses Advised Against No information available

Company Name, Address and Contact Details

Manufacturer/Supplier Halliburton New Zealand
1 Paraite Rd,
Bell Block, New Plymouth
New Zealand Registration No.: 824207

E-Mail address: fdunexchem@halliburton.com

Emergency Telephone Number +64-6-7559274

New Zealand National Poisons Centre 0800 764 766 (24 hours)

2. Hazard(s) Identification

Statement of Hazardous Nature

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulation 2001; Classified as dangerous good according to NZS 5433:2012, UN, IMDG or IATA

Classification

6.1E (Oral) Acutely Toxic Substances
8.2C Corrosive to dermal tissue if exposed for greater than 1 hour
8.3A Corrosive to ocular tissue
6.7A Known or presumed human carcinogens
6.9B Harmful to human target organs or systems
9.3C Harmful to terrestrial vertebrates

Hazard and Precautionary Statements

2. Hazard(s) Identification

Hazard Pictograms

Signal Word Danger

Hazard Statements

H350 - May cause cancer
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H303 - May be harmful if swallowed
H433 - Harmful to the terrestrial vertebrates.

Precautionary Statements

Prevention

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use
P104 - Read Safety Data Sheet before use.
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P281 - Use personal protective equipment as required

Response

P301+ P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P331 - Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P308 + P313 - IF exposed or concerned: Get medical attention/advice

Storage P405 - Store locked up

Disposal P501 - Dispose of contents/container to an approved waste disposal plant

Contains

Substances	CAS Number	Substance HSNO Classification
Ferric chloride	7705-08-0	8.2C 8.3A
Zeolite	1318-02-1	Not applicable
Mica	12001-26-2	6.9B
Crystalline silica, quartz	14808-60-7	6.7A 6.9A

Other Hazards

None known

3. Composition and Information on Ingredients

Substances	CAS Number	PERCENT
Ferric chloride	7705-08-0	10 - 30%
Zeolite	1318-02-1	1 - 5%
Mica	12001-26-2	1 - 5%
Crystalline silica, quartz	14808-60-7	1 - 5%

4. First-Aid Measures

Requirements for First Aid or Medical Care

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Eyes Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.

Ingestion Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Workplace Facilities Required

None

Relation to Health Effect

Most Important Symptoms/Effects

May cause eye and skin burns. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

Medical Attention and Special Treatment

Notes to Physician

Treat symptomatically

5. Fire-Fighting Measures

Type of Hazard

Flammability Hazard

Non-flammable

Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

HAZCHEM Code

Hazchem Code: None Allocated

Special Protective Equipment and Precautions for Fire Fighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

Special Exposure Hazards

Decomposition in fire may produce toxic gases.

6. Spillage, Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Use appropriate protective equipment.
See Section 12 for additional information

Environmental precautions
Prevent from entering sewers, waterways, or low areas.

Methods and material for containment and cleaning up
Scoop up and remove.

Reference to other sections
See Section 12 for additional information.

7. Handling and Storage

Precautions for Safe Handling
Handling Precautions
Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

Handling Practices

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice

Approved Handlers
If more than 10 kg (Class 6) is present, then an approved handler must be present when the substance is being handled and when not in use, the substance must be locked away.

Conditions for safe storage, including any incompatibilities
Store away from oxidizers. Store in a cool, dry location. Store in a well ventilated area. Keep container closed when not in use. Store locked up. Product has a shelf life of 12 months.

Store Site Requirements
No special controls required

Packaging
No special packaging required

8. Exposure Controls and Personal Protection

Workplace Exposure Standards

Substances	CAS Number	New Zealand WES	ACGIH TLV-TWA
Ferric chloride	7705-08-0	TWA: 1 mg/m^3	1 mg/m^3
Zeolite	1318-02-1	Not applicable	Not applicable
Mica	12001-26-2	TWA: 3 mg/m^3	TWA: 3 mg/m^3
Crystalline silica, quartz	14808-60-7	TWA: 0.2 mg/m^3	TWA: 0.025 mg/m^3

Engineering Controls

Engineering Controls Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

Personal Protective Equipment (PPE)

Respiratory Protection	Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), or equivalent respirator when using this product.
Hand Protection	Impervious rubber gloves.
Skin Protection	Rubber apron.
Eye Protection	Dust proof goggles.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State:	Solid	**Color:**	Brown
Odor:	Odorless	**Odor Threshold:**	No information available

Property Remarks/ Method	Values
pH:	4 (1%)
Melting Point/Range	No data available
Freezing Point/Range (C):	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.36
Water Solubility	Partly soluble
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other information

VOC Content (%)	No data available

10. Stability and Reactivity

Chemical Stability
Stable

Conditions to Avoid
None anticipated

Incompatible Materials
Strong oxidizers.

Hazardous Decomposition Products
Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

Hazardous Reactions

Hazardous Polymerization:	Will Not Occur

11. Toxicological Information

Health Effect from Likely Routes of Exposure
Acute Toxicity

11. Toxicological Information

Product Information Under certain conditions of use, some of the product ingredients may cause the following:

Inhalation May cause respiratory irritation. Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

Eye Contact May cause eye burns.

Skin Contact Prolonged or repeated contact may cause ulceration of the skin.

Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea. May cause liver damage. Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause liver damage. Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

Toxicity Data

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ferric chloride	316 mg/kg (Rat) 450 mg/kg (Rat)	No data available	No data available
Zeolite	5000 mg/kg (Rat) > 31800 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	2.4 mg/L (Rat) 1 h > 4.575 mg/L (Rat) 4 h
Mica	> 15000 mg/kg (Rat)	No data available	No data available
Crystalline silica, quartz	500 mg/kg (Rat)	No data available	No data available

12. Ecological Information

Toxicity

Ecotoxicity Effects

12. Ecological Information

Product Ecotoxicity Data
No data available

Substance Ecotoxicity Data

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ferric chloride	No information available	LC50: 20.26 mg/L (Lepomis macrochirus) LC50: 75.6 mg/L (Gambusia affinis)	No information available	EC50: 27.9 mg/L (Daphnia magna)
Zeolite	No information available	LC50: > 680 mg/L (Pimephales promelas)	No information available	EC50: > 2808 mg/L (Daphnia magna)
Mica	No information available	No information available	No information available	EC50: > 10,000 mg/l (Daphnia magna)
Crystalline silica, quartz	No information available	No information available	No information available	No information available

Persistence and degradability
No information available

Bioaccumulative potential
No information available

Mobility in soil
No information available

Ecotoxicity Hazard Statements
Harmful to terrestrial invertebrates.

Other adverse effects
Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations

Waste treatment methods

Disposal Method Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

14. Transport Information

IMDG/IMO

UN Number: UN1773,
UN Proper Shipping Name: Ferric Chloride, Anhydrous, Mixture
Transport Hazard Class(es): , 8
Packing Group: , III
EMS: EmS F-A, S-B

NZ 5433.1999

UN Number: UN1773,
UN Proper Shipping Name: Ferric Chloride, Anhydrous, Mixture
Transport Hazard Class(es): , 8
Packing Group: , III

IATA/ICAO

14. Transport Information

UN Number: UN1773,
UN Proper Shipping Name: Ferric Chloride, Anhydrous, Mixture
Transport Hazard Class(es): , 8
Packing Group: , III

Special Precautions for User None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. Regulatory Information

New Zealand Inventory of Chemicals All components listed on inventory or are exempt.

HSNO Approval Number HSR002493

Group Name Additives, Process Chemicals and Raw Materials (Corrosive and Toxic 6.7 HSR002493)

HSNO Controls Refer to the NZ EPA website for more information: http://www.epa.govt.nz

Approved Handlers If more than 10 kg (Class 6) is present, then an approved handler must be present when the substance is being handled and when not in use, the substance must be locked away.

Poisons Schedule: None Allocated

16. Other Information

The following sections have been revised since the last issue of this SDS
Not applicable

Additional Information For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Key literature references and sources for data
www.ChemADVISOR.com/
NZ CCID
SIDS
HERA
WHO/JECFA

Revision Date: 14-May-2013
Revision Note Not applicable

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End of Safety Data Sheet