HALLIBURTON

SAFETY DATA SHEET

Product Trade Name: **2.5 IN TDF FH ASSY, 1.900API-EU, HNS FUSE**

Revision Date: 08-Apr-2013 **Revision Number:** 1

1. Identification

1.1. Product Identifier

Product Trade Name: 2.5 IN TDF FH ASSY, 1.900API-EU, HNS FUSE
Synonyms: None
Chemical Family: Explosive
Internal ID Code HM007512

1.2 Recommended use and restrictions on use

Application: Explosive Charge
Uses Advised Against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier Halliburton Energy Services Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (281) 575-5000

Prepared By Chemical Stewardship
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Acute Oral Toxicity	Category 4 - H302
Serious Eye Damage / Eye Irritation	Category 2 - H319
Reproductive Toxicity	Category 1A - H360
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373
Explosives.	Division 1.4 - H204

2.2. Label Elements

Hazard Pictograms

Signal Word Danger

Hazard Statements

H204 - Fire or projection hazard
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P240 - Ground/Bond container and receiving equipment
P250 - Do not subject to grinding/shock/friction
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell
P370 + P380 - In case of fire: Evacuate area
P372 - Explosion risk in case of fire
P373 - DO NOT fight fire when fire reaches explosives

Storage

P401 - Store in accordance with local/regional/national/international regulations.
P405 - Store locked up

Disposal

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains

Substances	**CAS Number**
A-1A gasless ignition powder	Mixture
Tungsten delay powder, a pyrotechnic delay mix	Mixture
Hexanitrostilbene (HNS)	20062-22-0
Lead azide	13424-46-9

Titanium (II) hydride 7704-98-5
Potassium perchlorate 7778-74-7

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
A-1A gasless ignition powder	Mixture	NF	Expl. 1.1 (H201) Eye Irrit. 2 (H319)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	NF	Flam. Sol. 1 (H228)
Hexanitrostilbene (HNS)	20062-22-0	NF	Expl. 1.1 (H201)
Lead azide	13424-46-9	NF	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Repr. 1 (H360) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Expl. Unstable explosive (H200)
Titanium (II) hydride	7704-98-5	NF	Flam. Sol. 1 (H228)
Potassium perchlorate	7778-74-7	NF	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) STOT RE 2 (H373) Ox. Sol. 1 (H271)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures

4.1. Description of first aid measures

Inhalation If inhaled, move victim to fresh air and seek medical attention.

Eyes In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin Wash with soap and water. Get medical attention if irritation persists.

Ingestion Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes eye irritation Harmful if swallowed. Potential reproductive hazard. May cause birth defects. Prolonged or repeated exposure may cause damage to organs.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Do NOT fight fire. Isolate area and evacuate personnel to a safe area. Guard against intruders. Allow fire to burn itself out.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special Exposure Hazards
May detonate with impact or on heating. May explode and throw fragments 1 mile or more in fire. Evacuate all persons, including emergency responders.

5.3 Special protective equipment and precautions for fire-fighters

Special Protective Equipment for Fire-Fighters
Not applicable.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Use only competent persons for cleanup.
See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Remove ignition sources and work with non-sparking tools.

7. Handling and storage

7.1. Precautions for Safe Handling

Handling Precautions
Only allow trained personnel to handle product. Wash hands after use. Do NOT consume food, drink, or tobacco in contaminated areas. Avoid contact with eyes, skin, or clothing. Launder contaminated clothing before reuse.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information
Store only in ATF approved magazines. Keep away from friction, impact, and heat.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
A-1A gasless ignition powder	Mixture	Not applicable	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable	5 mg/m^3
Hexanitrostilbene (HNS)	20062-22-0	Not applicable	Not applicable
Lead azide	13424-46-9	0.05 mg/M3	0.05 mg/m^3
Titanium (II) hydride	7704-98-5	Not applicable	Not applicable
Potassium perchlorate	7778-74-7	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
Respiratory Protection Dust/mist respirator. (N95, P2/P3)

Hand Protection	Cloth gloves.
Skin Protection	Anti-static clothing. Cotton coveralls, undergarments, and socks. Conductive soled shoes.
Eye Protection	Wear safety glasses or goggles to protect against exposure.
Other Precautions	None known.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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

Property Remarks/ - Method	Values
pH:	No data available
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	No data available
Water Solubility	Insoluble in water
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

9.2. Other information

VOC Content (%)	No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

May detonate with friction, impact, heat, and low level electrical current.

10.5. Incompatible Materials

Strong acids. Strong alkalis.

10.6. Hazardous Decomposition Products

Shrapnel. Oxides of nitrogen. Metal oxides. Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation May cause effects to the blood and blood system. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness. May cause damage to the nervous, urinary, and reproductive systems. Nitrogen oxides generated during use are irritating to the respiratory system.

Eye Contact May cause eye irritation.

Skin Contact May be absorbed through the skin and contribute to the symptoms listed under ingestion. Nitrogen oxides generated during use are skin irritants.

Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause blood forming system, nervous, urinary tract and reproductive system damage. Prolonged or repeated exposure may cause embryo and fetus toxicity.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
A-1A gasless ignition powder	Mixture	> 2000 mg/kg (rat) (similar substance)	> 2000 mg/kg (rabbit) (similar substance)	> 5.43 mg/L (Rat, 4h, dust) (similar substance)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No data available	> 2000 mg/kg (Rat) (similar substance)	> 5.0 mg/L (Rat, 4h, aerosol) (similar substance)
Hexanitrostilbene (HNS)	20062-22-0	No data available	No data available	No data available
Lead azide	13424-46-9	No data available	No data available	No data available
Titanium (II) hydride	7704-98-5	> 5000 mg/kg (Rat) (Similar substance)	No data available	> 6.82 mg/L air (rat, dust, 4 h) (Similar substance)
Potassium perchlorate	7778-74-7	1900 mg/kg (Rabbit) > 2000 mg/kg (Rat) (Similar substance)	> 2,000 mg/kg (Rat) (Similar substance)	No data available

Substances	CAS Number	Skin corrosion/irritation
A-1A gasless ignition powder	Mixture	Causes moderate skin irritation. (Rabbit) (similar substances)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not irritating to skin in rabbits. (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available.
Lead azide	13424-46-9	No information available.
Titanium (II) hydride	7704-98-5	Not irritating to skin in rabbits. (similar substances)
Potassium perchlorate	7778-74-7	Not irritating to skin in rabbits. (similar substances)

Substances	CAS Number	Eye damage/irritation
A-1A gasless ignition powder	Mixture	Non-irritating to rabbit's eye (similar substances)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Non-irritating to rabbit's eye (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available.
Lead azide	13424-46-9	No information available.
Titanium (II) hydride	7704-98-5	Non-irritating to rabbit's eye (similar substances)
Potassium perchlorate	7778-74-7	(Rabbit) (similar substances)

Substances	CAS Number	Skin Sensitization
A-1A gasless ignition	Mixture	Did not cause sensitization on laboratory animals (mouse) (similar substances)

powder		
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available
Titanium (II) hydride	7704-98-5	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Potassium perchlorate	7778-74-7	Did not cause sensitization on laboratory animals (mouse) (similar substances)

Substances	**CAS Number**	**Respiratory Sensitization**
A-1A gasless ignition powder	Mixture	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No information available
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available
Titanium (II) hydride	7704-98-5	No data of sufficient quality are available.
Potassium perchlorate	7778-74-7	No information available

Substances	**CAS Number**	**Mutagenic Effects**
A-1A gasless ignition powder	Mixture	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available
Titanium (II) hydride	7704-98-5	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Potassium perchlorate	7778-74-7	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)

Substances	**CAS Number**	**Carcinogenic Effects**
A-1A gasless ignition powder	Mixture	No data of sufficient quality are available.
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No data of sufficient quality are available.
Hexanitrostilbene (HNS)	20062-22-0	No information available.
Lead azide	13424-46-9	No information available.
Titanium (II) hydride	7704-98-5	No data of sufficient quality are available.
Potassium perchlorate	7778-74-7	Did not show carcinogenic effects in animal experiments (similar substances)

Substances	**CAS Number**	**Reproductive toxicity**
A-1A gasless ignition powder	Mixture	No data of sufficient quality are available.
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	Fetotoxic and teratogenic effects observed in experimental animals at concentrations that did not produce maternal toxicity. (similar substances)
Titanium (II) hydride	7704-98-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Potassium perchlorate	7778-74-7	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	**CAS Number**	**STOT - single exposure**
A-1A gasless ignition powder	Mixture	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available
Titanium (II) hydride	7704-98-5	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Potassium perchlorate	7778-74-7	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	**CAS Number**	**STOT - repeated exposure**
A-1A gasless ignition	Mixture	No significant toxicity observed in animal studies at concentration requiring classification. (similar

powder		substances)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	Causes damage to organs through prolonged or repeated exposure: (Blood)
Titanium (II) hydride	7704-98-5	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Potassium perchlorate	7778-74-7	Causes damage to organs through prolonged or repeated exposure: (Thyroid)

Substances	**CAS Number**	**Aspiration hazard**
A-1A gasless ignition powder	Mixture	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable
Hexanitrostilbene (HNS)	20062-22-0	Not applicable
Lead azide	13424-46-9	Not applicable
Titanium (II) hydride	7704-98-5	Not applicable
Potassium perchlorate	7778-74-7	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	**Toxicity to Algae**	**Toxicity to Fish**	**Toxicity to Microorganisms**	**Toxicity to Invertebrates**
A-1A gasless ignition powder	Mixture	No information available	LC50(96h): > 98.9 mg/L (Oncorhynchus mykiss)(similar substance)	No information available	EC50(48h): 490 mg/L (Daphnia magna)(similar substance) NOEC(21d): > 2.52 ug/L (Daphnia magna) (similar substance)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	EC50(72h): > 17.7 mg/L (Pseudokirchnerella subcapitata) (similar substance)	LC50(96h): > 181 mg/L (Danio rerio)(similar substance) NOEC(38d): > 9.8 mg/L (Danio rerio) (similar substance)	EC50(30m): > 1000 mg/L (Activated sludge, domestic) (similar substance)	EC50(48h): > 163 mg/L (Daphnia magna) (similar substance) NOEC(21d): > 100 mg/L (Daphnia magna) (similar substance)
Hexanitrostilbene (HNS)	20062-22-0	No information available	No information available	No information available	No information available
Lead azide	13424-46-9	No information available	No information available	No information available	No information available
Titanium (II) hydride	7704-98-5	EC50(72h): > 100 mg/L (Pseudokirchneriella subcapitata) (similar substance)	LC50(96h): 294 mg/L (Japanese Medaka) (similar substance) NOEC(14d): > 0.87 mg/L (Oncorhynchus mykiss) (similar substance)	No information available	EC50(48h): > 500 mg/L (Daphnia magna) (similar substance) NOEC(21d): > 29.92 mg/L (Daphnia magna) (similar substance)
Potassium perchlorate	7778-74-7	No information available	LC50(96h): > 1000 mg/L (Danio rerio) NOEC(84d): 10 mg/L (Danio rerio)	No information available	EC50(48h): > 100 mg/L (Daphnia magna) NOEC(7d): 10 mg/L (Ceriodaphnia dubia)

12.2. Persistence and degradability

Substances	**CAS Number**	**Persistence and Degradability**
A-1A gasless ignition powder	Mixture	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	The methods for determining biodegradability are not applicable to inorganic substances.
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available

Titanium (II) hydride	7704-98-5	The methods for determining biodegradability are not applicable to inorganic substances.
Potassium perchlorate	7778-74-7	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
A-1A gasless ignition powder	Mixture	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No information available
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available
Titanium (II) hydride	7704-98-5	No information available
Potassium perchlorate	7778-74-7	-7.18

12.4. Mobility in soil

Substances	CAS Number	Mobility
A-1A gasless ignition powder	Mixture	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No information available
Hexanitrostilbene (HNS)	20062-22-0	No information available
Lead azide	13424-46-9	No information available
Titanium (II) hydride	7704-98-5	No information available
Potassium perchlorate	7778-74-7	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Do NOT reuse container. Store only in ATF approved magazines.

14. Transport Information

US DOT

UN Number: UN0384

UN Proper Shipping Name: Components, Explosive Train, N.O.S. .(BOOSTERS, DET CORD, AND/OR INITIATORS WITH PYX, NONA, HNS, OR HMX)

Transport Hazard Class(es): 1.4S

Packing Group: II

EX Number: EX1993090158

Environmental Hazards: Not applicable

NAERG: NAERG 114

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: UN0384

UN Proper Shipping Name: Components, Explosive Train, N.O.S. .(BOOSTERS, DET CORD, AND/OR INITIATORS WITH PYX, NONA, HNS, OR HMX)

Transport Hazard Class(es): 1.4S

Packing Group: II

EX Number: EX1993090158

Environmental Hazards: Not applicable

For Canada the proper shipping description is now:

Components, Explosive Train, N.O.S, .(BOOSTERS, DET CORD, AND/OR INITIATORS WITH PYX, NONA, HNS, OR HMX), 1.4B, UN0383

IMDG/IMO

UN Number: UN0384
UN Proper Shipping Name: Components, Explosive Train, N.O.S. .(BOOSTERS, DET CORD, AND/OR INITIATORS WITH PYX, NONA, HNS, OR HMX)
Transport Hazard Class(es): 1.4S
Packing Group: II
EX Number: EX1993090158
Environmental Hazards: Not applicable
EMS: EmS F-B, S-X

IATA/ICAO

UN Number: UN0384
UN Proper Shipping Name: Components, Explosive Train, N.O.S. .(BOOSTERS, DET CORD, AND/OR INITIATORS WITH PYX, NONA, HNS, OR HMX)
Transport Hazard Class(es): 1.4S
Packing Group: II
EX Number: EX1993090158
Environmental Hazards: Not applicable

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

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
A-1A gasless ignition powder	Mixture	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable
Hexanitrostilbene (HNS)	20062-22-0	Not applicable
Lead azide	13424-46-9	Not applicable
Titanium (II) hydride	7704-98-5	Not applicable
Potassium perchlorate	7778-74-7	Not applicable

EPA SARA (311,312) Hazard Class

Acute Health Hazard
Fire Hazard
Sudden Release of Pressure Hazard
Chronic Health Hazard

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
A-1A gasless ignition powder	Mixture	Not applicable	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable	Not applicable
Hexanitrostilbene (HNS)	20062-22-0	Not applicable	Not applicable
Lead azide	13424-46-9	0.1%	Not applicable
Titanium (II) hydride	7704-98-5	Not applicable	Not applicable
Potassium perchlorate	7778-74-7	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
A-1A gasless ignition powder	Mixture	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable
Hexanitrostilbene (HNS)	20062-22-0	Not applicable
Lead azide	13424-46-9	Not applicable
Titanium (II) hydride	7704-98-5	Not applicable
Potassium perchlorate	7778-74-7	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:

Reactivity D003

California Proposition 65 The California Proposition 65 regulations apply to this product.

MA Right-to-Know Law One or more components listed.

NJ Right-to-Know Law One or more components listed.

PA Right-to-Know Law One or more components listed.

Canadian Regulations

Canadian DSL Inventory Product contains one or more components not listed on the inventory.

16. Other information

Preparation Information

Prepared By
Chemical Stewardship
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

Revision Date: 08-Apr-2013

Reason for Revision SDS sections updated:
2

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 Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit

PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data
www.ChemADVISOR.com/

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End of Safety Data Sheet