

SAFETY DATA SHEET**Product Trade Name:** 2 1/2 TDF ASSY, 1.900 API-EU P, PYX FUSE**Revision Date:** 20-Dec-2012**Revision Number:** 9**1. Identification****1.1. Product Identifier**

Product Trade Name: 2 1/2 TDF ASSY, 1.900 API-EU P, PYX FUSE
Synonyms: None
Chemical Family: Explosive
Internal ID Code HM000695

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
Acute Aquatic Toxicity	Category 1 - H400
Chronic Aquatic Toxicity	Category 1 - H410
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
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects

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
 P273 - Avoid release to the environment
 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
 P391 - Collect spillage

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

2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2
A-1A gasless ignition powder	Mixture
Lead azide	13424-46-9
Tungsten delay powder, a pyrotechnic delay mix	Mixture
Potassium perchlorate	7778-74-7
Titanium (II) hydride	7704-98-5

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	NF	Expl. 1.1 (H201)
A-1A gasless ignition powder	Mixture	NF	Expl. 1.1 (H201) Eye Irrit. 2 (H319)
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)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	NF	Flam. Sol. 1 (H228)
Potassium perchlorate	7778-74-7	1 - 5%	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) STOT RE 2 (H373) Ox. Sol. 1 (H271)
Titanium (II) hydride	7704-98-5	1 - 5%	Flam. Sol. 1 (H228)

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**

Do NOT consume food, drink, or tobacco in contaminated areas. Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse. Only allow trained personnel to handle product.

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
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	Not applicable	Not applicable
A-1A gasless ignition powder	Mixture	Not applicable	Not applicable
Lead azide	13424-46-9	0.05 mg/M3	0.05 mg/m ³
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable	5 mg/m ³
Potassium perchlorate	7778-74-7	Not applicable	Not applicable
Titanium (II) hydride	7704-98-5	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	Cotton coveralls, undergarments, and socks. Conductive soled shoes. Anti-static clothing.
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

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
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
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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**

Harmful if inhaled. 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

Harmful if swallowed. 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
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	> 5000 mg/kg (Rat)	No data available	No data available
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)
Lead azide	13424-46-9	No data available	No data available	No data available
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)
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
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)

Substances	CAS Number	Skin corrosion/irritation
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available.
A-1A gasless ignition powder	Mixture	Causes moderate skin irritation. (Rabbit) (similar substances)
Lead azide	13424-46-9	No information available.
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not irritating to skin in rabbits. (similar substances)
Potassium perchlorate	7778-74-7	Not irritating to skin in rabbits. (similar substances)
Titanium (II) hydride	7704-98-5	Not irritating to skin in rabbits. (similar substances)

Substances	CAS Number	Eye damage/irritation
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available.
A-1A gasless ignition	Mixture	Non-irritating to rabbit's eye (similar substances)

powder		
Lead azide	13424-46-9	No information available.
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Non-irritating to rabbit's eye (similar substances)
Potassium perchlorate	7778-74-7	(Rabbit) (similar substances)
Titanium (II) hydride	7704-98-5	Non-irritating to rabbit's eye (similar substances)

Substances	CAS Number	Skin Sensitization
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	Did not cause sensitization on laboratory animals (mouse) (similar substances)
Lead azide	13424-46-9	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	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)
Titanium (II) hydride	7704-98-5	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

Substances	CAS Number	Respiratory Sensitization
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No information available
Lead azide	13424-46-9	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No information available
Potassium perchlorate	7778-74-7	No information available
Titanium (II) hydride	7704-98-5	No data of sufficient quality are available.

Substances	CAS Number	Mutagenic Effects
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Lead azide	13424-46-9	No information available
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)
Potassium perchlorate	7778-74-7	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Titanium (II) hydride	7704-98-5	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available.
A-1A gasless ignition powder	Mixture	No data of sufficient quality are available.
Lead azide	13424-46-9	No information available.
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No data of sufficient quality are available.
Potassium perchlorate	7778-74-7	Did not show carcinogenic effects in animal experiments (similar substances)
Titanium (II) hydride	7704-98-5	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No data of sufficient quality are available.
Lead azide	13424-46-9	Fetotoxic and teratogenic effects observed in experimental animals at concentrations that did not produce maternal toxicity. (similar substances)
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)
Potassium perchlorate	7778-74-7	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (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)

Substances	CAS Number	STOT - single exposure
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Lead azide	13424-46-9	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	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)
Titanium (II) hydride	7704-98-5	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	STOT - repeated exposure
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Lead azide	13424-46-9	Causes damage to organs through prolonged or repeated exposure: (Blood)
Tungsten delay powder, a pyrotechnic delay mix	Mixture	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)
Titanium (II) hydride	7704-98-5	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available Not applicable
A-1A gasless ignition powder	Mixture	Not applicable
Lead azide	13424-46-9	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable
Potassium perchlorate	7778-74-7	Not applicable
Titanium (II) hydride	7704-98-5	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
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available	No information available	No information available	No information available
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)
Lead azide	13424-46-9	No information available	No information available	No information available	No information available
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)
Potassium perchlorate	7778-74-7	No information available	LC50(96h): > 1000 mg/L	No information available	EC50(48h): > 100 mg/L

			(Danio rerio) NOEC(84d): 10 mg/L (Danio rerio)		(Daphnia magna) NOEC(7d): 10 mg/L (Ceriodaphnia dubia)
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)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No information available
Lead azide	13424-46-9	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	The methods for determining biodegradability are not applicable to inorganic substances.
Potassium perchlorate	7778-74-7	No information available
Titanium (II) hydride	7704-98-5	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No information available
Lead azide	13424-46-9	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No information available
Potassium perchlorate	7778-74-7	-7.18
Titanium (II) hydride	7704-98-5	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	No information available
A-1A gasless ignition powder	Mixture	No information available
Lead azide	13424-46-9	No information available
Tungsten delay powder, a pyrotechnic delay mix	Mixture	No information available
Potassium perchlorate	7778-74-7	No information available
Titanium (II) hydride	7704-98-5	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
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	Not applicable
A-1A gasless ignition powder	Mixture	Not applicable
Lead azide	13424-46-9	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable
Potassium perchlorate	7778-74-7	Not applicable
Titanium (II) hydride	7704-98-5	Not applicable

EPA SARA (311,312) Hazard Class

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

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	Not applicable	Not applicable
A-1A gasless ignition powder	Mixture	Not applicable	Not applicable
Lead azide	13424-46-9	0.1%	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable	Not applicable
Potassium perchlorate	7778-74-7	Not applicable	Not applicable
Titanium (II) hydride	7704-98-5	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
2,6-Bis(picrylamino)-3,5-dinitro-pyridine (PYX)	38082-89-2	Not applicable
A-1A gasless ignition powder	Mixture	Not applicable
Lead azide	13424-46-9	Not applicable
Tungsten delay powder, a pyrotechnic delay mix	Mixture	Not applicable
Potassium perchlorate	7778-74-7	Not applicable
Titanium (II) hydride	7704-98-5	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: 20-Dec-2012

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/m³ - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

Key literature references and sources for data

www.ChemADVISOR.com/

Disclaimer Statement

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End of Safety Data Sheet