

**SAFETY DATA SHEET**  
**BOOSTER HNS****Product Trade Name:****Revision Date:** 18-Feb-2015**Revision Number:** 5**1. Identification****1.1. Product Identifier**

**Product Trade Name:** BOOSTER HNS  
**Synonyms:** None  
**Chemical Family:** Explosive  
**Internal ID Code** HM006519

**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**

Explosives.

Division 1.4 - H204

**2.2. Label Elements****Hazard Pictograms****Signal Word** Warning**Hazard Statements** H204 - Fire or projection hazard**Precautionary Statements**

<b>Prevention</b>	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 P280 - Wear face protection
<b>Response</b>	P370 + P380 - In case of fire: Evacuate area P372 - Explosion risk in case of fire P373 - DO NOT fight fire when fire reaches explosives
<b>Storage</b>	P420 - Store away from other materials
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains  
Substances**

Hexanitrostilbene (HNS)

**CAS Number**

20062-22-0

**2.3 Hazards not otherwise classified**

None known

**3. Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Hexanitrostilbene (HNS)	20062-22-0	5 - 10%	Expl. 1.1 (H201)

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

**4. First-Aid Measures****4.1. Description of first aid measures**

<b>Inhalation</b>	If inhaled, move victim to fresh air and seek medical attention.
<b>Eyes</b>	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.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

**4.2 Most important symptoms/effects, acute and delayed**

No significant hazards expected.

**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**

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

**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. Scoop up and remove.

**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.

**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
Hexanitrostilbene (HNS)	20062-22-0	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.

**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

<b>Physical State:</b>	Solid	<b>Color:</b>	Metallic
<b>Odor:</b>	Odorless	<b>Odor</b>	No information available
		<b>Threshold:</b>	

<u>Property</u> Remarks/ - Method	<u>Values</u>
<b>pH:</b>	No data available
<b>Freezing Point/Range</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
upper flammability limit	No data available
lower flammability limit	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	No data available
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

<b>VOC Content (%)</b>	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. Product does not present exposures health hazards during normal handling and use. However, this product is an explosive material and uncontrolled detonation may cause severe physical injury including death. All explosives are dangerous and must be handled carefully and used following approved safety procedures under the direction of competent, experience persons in accordance with all applicable regulations and ordinances.

**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  
Skin Contact**

May cause eye irritation.

May be absorbed through the skin and contribute to the symptoms listed under ingestion. Nitrogen oxides generated during use are skin irritants. May cause an allergic skin reaction.

**Ingestion**

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

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**11.3 Toxicity data****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hexanitrostilbene (HNS)	20062-22-0	No data available	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Hexanitrostilbene (HNS)	20062-22-0	No information available.

Substances	CAS Number	Eye damage/irritation
Hexanitrostilbene (HNS)	20062-22-0	No information available.

Substances	CAS Number	Skin Sensitization
Hexanitrostilbene (HNS)	20062-22-0	No information available

Substances	CAS Number	Respiratory Sensitization
Hexanitrostilbene (HNS)	20062-22-0	No information available

Substances	CAS Number	Mutagenic Effects
Hexanitrostilbene (HNS)	20062-22-0	No information available

Substances	CAS Number	Carcinogenic Effects
Hexanitrostilbene (HNS)	20062-22-0	No information available.

Substances	CAS Number	Reproductive toxicity
Hexanitrostilbene (HNS)	20062-22-0	No information available

Substances	CAS Number	STOT - single exposure
Hexanitrostilbene (HNS)	20062-22-0	No information available

Substances	CAS Number	STOT - repeated exposure
Hexanitrostilbene (HNS)	20062-22-0	No information available

Substances	CAS Number	Aspiration hazard
Hexanitrostilbene (HNS)	20062-22-0	No information available

## 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
Hexanitrostilbene (HNS)	20062-22-0	No information available	No information available	No information available	No information available

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hexanitrostilbene (HNS)	20062-22-0	No information available

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hexanitrostilbene (HNS)	20062-22-0	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Hexanitrostilbene (HNS)	20062-22-0	No information available

### 12.5 Other adverse effects

No information available

## 13. Disposal Considerations

### 13.1. Waste treatment methods

<b>Disposal Method</b>	Disposal should be made in accordance with federal, state, and local regulations.
<b>Contaminated Packaging</b>	Do NOT reuse container. Store only in ATF approved magazines.

## 14. Transport Information

### US DOT

<b>UN Number:</b>	UN0384
<b>UN Proper Shipping Name:</b>	Components, Explosive Train, N.O.S. (Booster Containing HNS)
<b>Transport Hazard Class(es):</b>	1.4S
<b>Packing Group:</b>	II
<b>EX Number:</b>	EX-2008040073
<b>Environmental Hazards:</b>	Not applicable
<b>NAERG:</b>	NAERG 114

### US DOT Bulk

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**DOT (Bulk)** Not applicable

**Canadian TDG**

**UN Number:** UN0384  
**UN Proper Shipping Name:** Components, Explosive Train, N.O.S. (Booster Containing HNS)  
**Transport Hazard Class(es):** 1.4S  
**Packing Group:** II  
**EX Number:** EX-2008040073  
**Environmental Hazards:** Not applicable

**IMDG/IMO**

**UN Number:** UN0384  
**UN Proper Shipping Name:** Components, Explosive Train, N.O.S. (Booster Containing HNS)  
**Transport Hazard Class(es):** 1.4S  
**Packing Group:** II  
**EX Number:** EX-2008040073  
**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. (Booster Containing HNS)  
**Transport Hazard Class(es):** 1.4S  
**Packing Group:** II  
**EX Number:** EX-2008040073  
**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

<b>15. Regulatory Information</b>
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**US Regulations**

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>EPA SARA Title III Extremely Hazardous Substances</b>	Not applicable
<b>EPA SARA (311,312) Hazard Class</b>	None
<b>EPA SARA (313) Chemicals</b>	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
<b>EPA CERCLA/Superfund Reportable Spill Quantity</b>	Not applicable.
<b>EPA RCRA Hazardous Waste Classification</b>	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:  Reactivity D003
<b>California Proposition 65</b>	All components listed do not apply to the California Proposition 65 Regulation.

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<b>MA Right-to-Know Law</b>	Does not apply.
<b>NJ Right-to-Know Law</b>	Does not apply.
<b>PA Right-to-Know Law</b>	Does not apply.

## Canadian Regulations

<b>Canadian DSL Inventory</b>	Product contains one or more components not listed on the inventory.
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## 16. Other information

### Preparation Information

<b>Prepared By</b>	Chemical Stewardship Telephone: 1-580-251-4335 e-mail: fdunexchem@halliburton.com
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**Revision Date:** 18-Feb-2015

**Reason for Revision** Update to Format  
SECTION:  
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<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day



**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

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**End of Safety Data Sheet**