

Safety Data Sheet

Section 1: Identification

Product identifier

Product Name

Synonyms

SDS Number/Grade

Product Code

- **Severance Assembly**

• Canopy Fracturing Assembly; Egress Severance Assembly; Hatch Severance Assembly; Linear Flexible Shaped Charge

• 17610-0067-SDS

• 16296200-X; 25209-X; 25239-X; 25251-1; 51256-X; 51388-X; 51389-X; 51390-X; 51391-X; 51413-X; 51494-X; 51510-X; 51511-X; 51585-X; 51772-X; 51839-X; 51840-X; 51852-X; 51890-X; 51891-X; 52076-X; 52077-X; 52078-X; 52079-X; 52080-X; 52086-X; 52107-X; 52276-X; 52277-X; 52278-X; 52410-X; 80578-2; 80714-X; 80715-X; 81000-X; 81129-X; 81130-X; 81023-X

Relevant identified uses of the substance or mixture and uses advised against

Recommended use

- Consult manufacturer for the recommended product use

Details of the supplier of the safety data sheet

Manufacturer

- Universal Propulsion Company

3530 Branscombe Rd
Fairfield, CA 94533
United States

Telephone (General) • 707-422-1880

Emergency telephone number

Manufacturer

- 1-800-424-9300 - Emergency Phone Number (24 hours) CHEMTRAC

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

- Explosives 1.4

Label elements

OSHA HCS 2012

WARNING



Hazard statements • Fire or projection hazard

Precautionary statements

Prevention • Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. Ground and/or bond container and receiving equipment. Do not subject to grinding/shock/friction.

Wear face protection .

Response

- In case of fire: Evacuate area.
Explosion risk in case of fire.
DO NOT fight fire when fire reaches explosives.
Fight fire with normal precautions from a reasonable distance.

Storage/Disposal

- Store in accordance with local, regional, national, and/or international regulations.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
Lead, powder	CAS:7439-92-1	> 1%
1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	CAS:20062-22-0	> 1%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, move person to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Wash skin with soap and water.

Eye

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

Ingestion

- Ingestion is unlikely. Obtain medical attention immediately if ingested.

Most important symptoms and effects, both acute and delayed

- Under normal conditions of use, no health effects are expected.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- TIRE OR VEHICLE FIRES: Use plenty of water - FLOOD it! If water is not available, use CO₂, dry chemical or dirt.
- Unsuitable Extinguishing Media**
- No data available

Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- May rupture in fire. Products contained in unit are explosives and are extremely flammable and readily ignited.
Uncontained initiation of this device may expel shrapnel.
MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO
- Hazardous Combustion Products**
- No data available

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
CARGO FIRES: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!
LARGE FIRES: Do not move cargo or vehicle if cargo has been exposed to heat.
TIRE OR VEHICLE FIRES: If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Do not walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS
- Emergency Procedures**
- Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Move people out of line of sight of the scene and away from windows. Keep unauthorized personnel away. Stay upwind. Ventilate closed spaces before entering.

Environmental precautions

- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST
Cover any spilled or exposed material with vegetable oil or diesel fuel and remove for approved disposal.

Section 7 - Handling and Storage

Precautions for safe handling

- Handling**
- Never drop, skid, cause impact to, expose to high heat, or slide packages containing class 1 materials. Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. All equipment used when handling the product must be grounded. Take precautionary measures against static charges. This product is an explosive and should only be used under the supervision of trained and licensed personnel. Use good safety and industrial hygiene practices. Wear appropriate personal protective equipment.

Conditions for safe storage, including any incompatibilities

- Storage**
- Store assemblies in a properly sited and maintained magazine. Reference BATF, OSHA, DoD 4145.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Lead, powder (7439-92-1)	TWAs	0.05 mg/m ³ TWA	0.050 mg/m ³ TWA	50 µg/m ³ TWA

Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Respiratory	<ul style="list-style-type: none"> In case of insufficient ventilation, wear suitable respiratory equipment.
Eye/Face	<ul style="list-style-type: none"> Wear safety glasses. Wear blast shields where necessary.
Hands	<ul style="list-style-type: none"> Wear leather gloves under normal conditions. Wear PBI or leather gloves as outer shells with nitrile gloves as inserts under spill conditions.
Skin/Body	<ul style="list-style-type: none"> Flame retardant coat (PBI or FR-7 cotton), grounding straps (Wrist and Leg) to prevent electrostatic discharge ignition.
Environmental Exposure Controls	<ul style="list-style-type: none"> Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Fiberglass frame or extruded rubber molding with small diameter sheathed explosive charge.
Color	No data available	Odor	No data available
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	405 °C(761 °F)	pH	No data available
Specific Gravity/Relative Density	No data available	Water Solubility	No data available
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		

Environmental

Octanol/Water Partition coefficient	No data available		
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Section 10: Stability and Reactivity**Reactivity**

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Ignition Sources.

Incompatible materials

- Strong acids, bases, oxidizers, and strong reducing agents.

Hazardous decomposition products

- Lead, Lead Oxides, Carbon Dioxide, Carbon Monoxide, other carbonaceous by-products nitrogen, nitrogen oxides, hydrogen, antimony and antimony oxides.

Section 11 - Toxicological Information**Information on toxicological effects**

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • No data available
Skin corrosion/Irritation	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • No data available
Skin sensitization	OSHA HCS 2012 • No data available
Respiratory sensitization	OSHA HCS 2012 • No data available
Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	OSHA HCS 2012 • No data available
Toxicity for Reproduction	OSHA HCS 2012 • No data available
STOT-SE	OSHA HCS 2012 • No data available
STOT-RE	OSHA HCS 2012 • No data available

Potential Health Effects**Inhalation**

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Skin

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available

Eye**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available

Ingestion**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- No data available

Carcinogenic Effects

- Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Carcinogenic Effects

	CAS	IARC	NTP
Lead, powder	7439-92-1	Group 2A-Probable Carcinogen	Reasonably Anticipated to be Human Carcinogen

Section 12 - Ecological Information**Toxicity**

- Non-mandatory section - information was not compiled for this reason.

Persistence and degradability

- Non-mandatory section - information was not compiled for this reason.

Bioaccumulative potential

- Non-mandatory section - information was not compiled for this reason.

Mobility in Soil

- Non-mandatory section - information was not compiled for this reason.

Other adverse effects

- Non-mandatory section - information was not compiled for this reason.

Section 13 - Disposal Considerations**Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT					

Special precautions for user

- None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- No data available

Other information

- DOT • Transportation classification varies with packaging. Consult UTAS Fairfield for specific transportation classification inquiries.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Pressure(Sudden Release of)

Inventory		
Component	CAS	TSCA
1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Yes
Lead, powder	7439-92-1	Yes

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

- Lead, powder 7439-92-1 Not Listed
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

- Lead, powder 7439-92-1 30 µg/m³ Action Level (See 29 CFR 1910.1025); 50 µg/m³ TWA (See 29 CFR 1910.1025)
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- Lead, powder 7439-92-1 Not Listed
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- Lead, powder 7439-92-1 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

- Lead, powder 7439-92-1 Not Listed
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

- Lead, powder 7439-92-1 Not Listed
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

- Lead, powder 7439-92-1 Not Listed
- 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene 20062-22-0 Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Lead, powder	7439-92-1	0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze)
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Lead, powder	7439-92-1	100 lb RT (this lower threshold does not apply to lead when it is contained in stainless steel, brass or bronze alloy)
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Lead, powder	7439-92-1	carcinogen, 10/1/1992
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Lead, powder	7439-92-1	developmental toxicity, 2/27/1987
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Lead, powder	7439-92-1	0.5 µg/day MADL
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Lead, powder	7439-92-1	15 µg/day NSRL (oral)
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Lead, powder	7439-92-1	female reproductive toxicity 2/27/87
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Lead, powder	7439-92-1	male reproductive toxicity, 2/27/87
• 1,1'-(1,2-Ethenediyl)bis-2,4,6-trinitro-benzene	20062-22-0	Not Listed

Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information**Revision Date**

- 30/November/2018

Preparation Date

- 22/December/2015

Disclaimer/Statement of Liability

- The information herein is given in good faith but no warranty, expressed or implied, is made.

Key to abbreviations

NDA = No Data Available