

BAE SYSTEMS

ORDNANCE SOLUTIONS INC.

MATERIAL DATA SHEET			
Manufacturer: ORDNANCE SYSTEMS INC. 4509 WEST STONE DRIVE KINGSPORT, TN 37660-9982		HOLSTON N/A MSDS NUMBER: 6903	
For Emergency Call CHEMTREC® 800-424-9300 For more information about this MSDS, call (423) 578-6345 The notation N/A is used to indicate that a section or item of information is not applicable for the chemical or ingredient.			
SECTION I MATERIAL IDENTIFICATION			
EFFECTIVE DATE: September 28, 2005 LABEL NAME: NONA		OSI CHEMICAL NUMBER: N/A UN NUMBER:	
CHEMICAL NAME: 2,4,6,2',4',6',2'',4'',6''-Nonanitro-[1,1';3',1'']terphenyl or 2,4,6,2',4',6',2'',4'',6''-Nonanitro-m-terphenyl TRADE, COMMON NAMES, OTHER: NONA CHEMICAL FORMULA: C ₁₈ H ₅ N ₉ O ₁₈ MOLECULAR WEIGHT: 635.28 HAZARD CODES/RATINGS: Fire – 4, Chemical Reactivity – 1, Skin – 2, Respiratory – 3 (See SECTION X for Hazard Rating Scales)			
SECTION II HAZARDOUS INGREDIENTS OF MIXTURE			
CHEMICAL NAMES	COMMON NAME(S)	WEIGHT %	ACGIH TLV (UNITS)
2,4,6,2',4',6',2'',4'',6''-Nonanitro-[1,1';3',1'']terphenyl	NONA		Not determined
SECTION III PHYSICAL DATA			
BOILING POINT (°C): N/A MELTING POINT (°C): >360°C VAPOR PRESSURE (mm Hg): N/A		VAPOR DENSITY (AIR = 1): >1 PERCENT VOLATILES (WT.%): N/A SPECIFIC GRAVITY (H ₂ O = 1): 1.78 EVAPORATION RATE: N/A	
SOLUBILITY IN WATER: Insoluble APPEARANCE AND ODOR: Pale yellow fine solid. No odor.			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (°C): Unknown
METHOD USED:

FLAMMABLE LIMITS (VOL%)
LEL: N.A. **UEL:** N.A.

EXTINGUISHING MEDIA: Do not fight fire. NONA is a class 1.1 explosive.

FIRE FIGHTING PROCEDURES: Do not attempt to manually extinguish fires. Burning explosives may accelerate to a detonation at any time when subjected to confinement, shock, or other sufficient initiation source. NONA is a class 1.1 explosive.

No attempt to fight fires involving explosives should be made except for manual activation of installed fire extinguishing equipment. Personnel should leave the building immediately using as much protective cover as possible and activating deluge systems and the fire alarm equipment while escaping.

FIRE AND EXPLOSION HAZARDS: Must not be confined if burning. Confinement can cause deflagration or transition to detonation with extremely violent results. Explosives may be retained in fissures, cracks, and crevices of structures, equipment, and containers that have been exposed to explosives. Property that may be contaminated by explosives must not be subjected to heat, sparks, or flame. Detonation can occur. Thermal decontamination under controlled conditions is the recommended method for complete decontamination. Thermal decontamination must be preceded by washing/steaming and chemical neutralization or dissolution. Contaminated property must not be buried.

SECTION V REACTIVITY DATA

STABILITY: Avoid shock, heat, electrostatic discharge, impact, impingement and friction. High explosive will detonate when exposed to sufficient energy level.

CONDITIONS TO AVOID: Contact with strong acids, bases, and materials that create or induce static potential. Keep material from heat or flame.
Avoid shock, heat, electrostatic discharge, impact, impingement and friction. High explosive will detonate when exposed to sufficient energy level.

MATERIALS TO AVOID: Acids and bases. Strong oxidizers and reducing agents and physical sensitizers such as glass, sand, and metal fragments.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion products contain nitrogen oxides and carbon monoxide.

HAZARDOUS POYLMERIZATION: Will not occur

SECTION VI HEALTH HAZARD DATA

TOXICOLOGY: Exposure of personnel should be minimized until health effects are determined. There are no significant concentrations of vapors at ambient temperature. Inhalation of explosive powders have been known to cause nervous system irregularities including headaches and dizziness.

CARCINOGENICITY: Effects unknown, minimize exposure

EFFECTS OF EXPOSURE:

SKIN AND EYES: May cause skin irritation.

INHALATION AND INGESTION: May be harmful if inhaled or swallowed. May be irritating to mucous membranes and upper respiratory tract.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: In case of contact, flush thoroughly with large amounts of low pressure water for at least 15 minutes. Get medical attention.

SKIN: Wash with soap and warm running water. Get medical attention for rash or irritation.

INHALATION (Dried solids or decomposition gases): Remove to fresh air, treat any irritation symptomatically. If breathing is difficult, give oxygen. Get medical attention.

INGESTION: If conscious, induce vomiting immediately by giving 1 or 2 glasses of water and touching back of throat with finger or blunt object or by giving syrup of ipecac. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION VII SPECIAL PROTECTION INFORMATION

RESPIRATION PROTECTION: Use NIOSH approved respirator for dusts and particulates if exposed to dusting.

VENTILATION:

LOCAL EXHAUST: SPECIAL: NA

MECHANICAL: General, moderate

OTHER: N/A

PROTECTIVE GLOVES: If prolonged or repeated skin contact may occur, impervious gloves are recommended.

EYE PROTECTION: Industrial safety goggles as a minimum are recommended for any type of industrial chemical handling.

OTHER PROTECTIVE EQUIPMENT: Wash hands thoroughly after handling.

SECTION VIII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN THE EVENT MATERIAL IS RELEASED OR SPILLED:

Follow Local, State and Federal Regulations.

WASTE DISPOSAL METHOD:

Explosives should be destroyed by open burning, by burning in an approved incinerator, or by chemical treatment with caustics. The disposal site should be located to provide adequate quantity-distance protection for adjacent facilities and personnel. Explosives should not be burned in containers. The explosives should comply with all applicable federal, state, and local regulations.

Refer to Section IV for precautions when burning. Store and handle waste explosives as Class 1 explosives. Transport in accordance with the Department of Transportation regulations for Class 1.1 explosives. Obtain approval from appropriate Safety Agency before disposal.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN STORAGE AND HANDLING:

High explosives should be stored in approved explosives magazines in accordance with AMCR 385-100. Storage and handling must be carried out in accordance with appropriate Safety Agency regulations concerning quantity distance, barricading, personnel exposure and material handling equipment. Recycle or dispose of used containers in accordance with appropriate Safety Agency regulations. In buildings and locations where explosives with spark energies for initiation not greater than 0.02 Joules are handled, the relative humidity should be 50% or greater. Dust generated by handling must be cleaned up on a continuing basis.

OTHER PRECAUTIONS: CAUTION: Explosives must be tested for compatibility with any materials which they contact. Materials include other explosives, solvents, adhesives, metals, plastics, paints, cleaning compound, floor and table coverings, packing materials, and other similar materials and equipment. Keep container closed. Wash thoroughly after handling. Wash contaminated clothing before reuse. Extreme care should be exercised during maintenance of explosive contaminated clothing before reused. Extreme care should be exercised during maintenance of explosive contaminated equipment. Decontamination procedures include washing/steaming, chemical decontamination, and thermal decontamination. Decontamination should be performed prior to welding, cutting or grinding metal parts. Penetrating oil should be used liberally on nuts, bolts, and all threaded connections to aid in desensitizing hidden explosives prior to disassembly. Refer to AMCR 385-100, paragraph 16-18.

SECTION X MISCELLANEOUS

HAZARD CODES/RATINGS:

FIRE HAZARD: 0 – Noncombustible; 1 – Low; 2 – Moderate; 3 – Severe; 4 – High

CHEMICAL REACTIVITY: 0 – Stable; 1 – Low; 2 – Moderate; 3 – Severe; 4 – High

SKIN HAZARD: 1 – Low; 2 – Moderate; 3 – High

RESPIRATORY HAZARD: 1 – Low; 2 – Moderate; 3 - High

OTHER:

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from other sources to assure proper use of these materials and the safety and health of employees.