



# MATERIAL SAFETY DATA SHEET

**PRODUCT NAME:** NOMATCH™ ALL PURPOSE IGNITER (API)  
**DATE:** July 31, 2008

## SECTION 4 - FIRST AID MEASURES

**INHALATION:**  
 If explosion fumes are inhaled, remove to fresh air, obtain medical attention if breathing remains difficult.

**EYES:**  
 Wash for 15 minutes with clean potable water lifting upper and lower lids occasionally. Seek medical attention if irritation persists.

**SKIN:**  
 Wash with plenty of soap and water. Seek medical attention if delayed dermatitis develops.

**INGESTION:**  
 Seek medical attention immediately.

## SECTION 5 - FIRE FIGHTING MEASURES

**GENERAL HAZARDS:**  
 Can explode under fire conditions. Individual devices will randomly explode with a small report noise much like a small firecracker. Will not mass explode if multiple devices are involved. Burning material may produce toxic vapors.

**EXTINGUISHING MEDIA:**  
 Water, Dry chemical, Foam or CO<sub>2</sub>.

**FIRE FIGHTING PROCEDURES:**  
**SPECIAL FIRE FIGHTING PROCEDURES:** Fires involving these devices may be fought safely, from a distance of not less than 25 feet, with hose apparatus by flooding packaging with water. Packaged multiple devices will not mass explode. Evacuate personnel to predetermined safe distance.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**  
 Can explode under fire conditions. Individual devices will randomly explode with a small report noise much like a small firecracker. Will not mass explode if multiple devices are involved. Burning material may produce toxic vapors.

**HAZARDOUS COMBUSTION PRODUCTS:**  
 Chromium Compounds, Carbon Monoxide, Carbon Dioxide, Halogen Compounds, Nitrous Oxides, Various complex oxides of metals, Nitrogen.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**  
 In case of fire (local to devices or packaging), evacuate area not less than 100 feet or more if indicated by prevailing conditions (spreading fire) or by authorities having jurisdiction. Notify authorities in accordance to emergency response procedures. If no fire danger is present and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State and local law spill reporting requirements.

## SECTION 7 - HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**  
 Keep away from heat, flame, ignition sources, strong shock. Do not attempt to disassemble. Store in cool, dry, well-ventilated location. Store in compliance with Federal, State, and local regulations. Keep away from heat, flame, ignition sources, and strong shock.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HAZARDOUS COMPONENTS	NIOSH				ACGIH		OSHA	
	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	TLV/TWA ppm	TWA mg/m <sup>3</sup>	PEL ppm	PEL mg/m <sup>3</sup>
Potassium Perchlorate	NE		NE		NE		NE	
Aluminum		10				10	15 mg/m <sup>3</sup> (5 respirable)	
HMX	NE		NE		NE		NE	
Calcium Chromate		0.001				0.001		0.1
Boron	NE		NE		NE		NE	

### PERSONAL PROTECTION

**RESPIRATORY PROTECTION:**  
**VENTILATION:** None required for normal handling. (Normal handling requires functioning outdoors.)


**PROTECTIVE GLOVES:**  
 None required for normal handling.

**EYE PROTECTION:**  
 Safety glasses required.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:**  
 None required for normal handling.

**WORK / HYGIENIC PRACTICES:**  
 Avoid breathing fumes from ignition.

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<b>DATE: July 31, 2008</b>			
<b>SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES</b>			
APPEARANCE AND ODOR Small metal cylinder attached to varying length plastic tubing		VAPOR PRESSURE NA	
pH NA		SPECIFIC GRAVITY (WATER = 1) NA	
BOILING POINT / BOILING RANGE NA		SOLUBILITY IN WATER NA	
FLASH POINT NA		VISCOSITY NA	
FLAMMABLE LIMITS LEL: NA UEL: NA		VAPOR DENSITY (AIR = 1) NA	
AUTOIGNITION TEMPERATURE NE		EVAPORATION RATE (WATER = 1) NA	
<b>SECTION 10 - STABILITY AND REACTIVITY</b>			
STABILITY Stable under normal conditions. Individual devices may explode when subjected to fire, supersonic shock, or high-energy projectile impact. Multiple devices in confinement will not mass explode.		STABLE <b>X</b> CONDITIONS TO AVOID: Keep away from heat, flame, ignition sources, strong shock. Do not attempt to disassemble.	
INCOMPATIBILITY (MATERIALS TO AVOID): Corrosives, Acids, Organic materials.			
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: As a result of explosion only: Chromium Compounds, Carbon Monoxide, Carbon Dioxide, Halogen Compounds, Nitrous Oxides, Various complex oxides of metals, Nitrogen.			
HAZARDOUS POLYMERIZATION: Will not occur.		CONDITIONS TO AVOID: None related to polymerization.	
<b>SECTION 11 - TOXICOLOGICAL INFORMATION</b>			
Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Potassium Perchlorate	7778-74-7 231-912-9	NE	NE
Aluminum	7429-90-5 231-072-3	NE	NE
HMX	2691-41-0 220-260-0	LD50 (oral, mice) 1,500 mg/kg	NE
Calcium Chromate	13765-19-0 237-366-8	LD 50 (oral, rat) 327mg/kg	NE
Boron	7440-42-8 231-151-2	NE	NE
<b>SECTION 12 - ECOLOGICAL INFORMATION</b>			
Both Potassium Perchlorate and Calcium Chromate present an aquatic toxicity risk for the environment. Avoid all discharge of this product to watercourses. Dispose only by a licensed disposal facility equipped to handle explosives wastes.			
<b>SECTION 13 - DISPOSAL CONSIDERATIONS</b>			
WASTE DISPOSAL METHOD: Dispose of in accordance with Federal, State, and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource conservation and Recovery Act (RCRA) Title II, Subtitle C.			
<b>SECTION 14 - TRANSPORT INFORMATION</b>			
PROPER SHIPPING NAME: Fuzes, Igniting, 1.4S, UN0368			
DOT HAZARD CLASS / Pack Group: 1.4S		IATA HAZARD CLASS / Pack Group: 1.4S, PG II , 25Kg Passenger, 100Kg Cargo.	
REFERENCE: 49CFR		IMDG HAZARD CLASS: 1.4S	
UN / NA IDENTIFICATION NUMBER: UN 0368		RID/ADR Dangerous Goods Code: 1.4S, PG II	
LABEL: Explosive 1.4S		UN TDG Class / Pack Group: UN 0368/PGII	
HAZARD SYMBOLS:		Hazard Identification Number (HIN): 546	
			
Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.			

