



MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: eXact iMpacT 40mm Sponge Round		DATE: March 15, 2010
PRODUCT NUMBER: 6325		
TRADE NAME: eXact iMpacT 40mm Sponge Round GENERAL USE: Impact Round CHEMICAL FAMILY: Inert Projectile + Primer/Powder PRODUCT DESCRIPTION: Round Containing Sponge/ Powder Charge / Primer (Explosive Device)	 DEFENSE TECHNOLOGY	
MANUFACTURED FOR: Safariland L.L.C.	DATE PREPARED: March 15, 2010	SUPERSEDES: July 30, 2008
ADDRESS (NUMBER, STREET, P.O. BOX): 13386 International Parkway	TELEPHONE NUMBER FOR INFORMATION / Customer Service: 904-741-5400	
(CITY, STATE AND ZIP CODE): Jacksonville, FL 32218	COUNTRY: USA	CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER  1-800-255-3924 01-813-248-0585 North America Toll Free International

SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! EXPLOSIVE/DEFLAGRATING (FAST BURN RATE) PRODUCT. KEEP AWAY FROM HEAT. DO NOT SUBJECT TO MECHANICAL OR ELECTRICAL SHOCK. EXPLODING CARTRIDGES MAY EJECT SHRAPNEL AT HIGH VELOCITIES. PARTICLES FROM FIRING MAY BE HARMFUL IF INHALED. DO NOT TAKE INTERNALLY. COMPONENTS MAY HARM ENVIRONMENT.

Individual cartridges may ignite if the primer is struck or if the cartridge is exposed to excess heat. Oxides of Barium, Lead, Antimony, Aluminum, Magnesium, Nitrogen, Carbon, and Sulfur. Lead and Antimony fumes may also be produced on thermal decomposition.

POTENTIAL HEALTH EFFECTS

INHALATION:

Both pre and post ignition ingredients are hazardous and capable of producing long term health effects due primarily to the presence of zinc, lead, antimony in the product. While normal handling of the undetonated product poses little or no health hazards, one should avoid inhalation by wearing appropriate respiratory protection when exposed to the chemical ingredients of the product above listed TLV's or when exposed to the post ignition by-products. This product is a finished cartridge or canister which contains the various components completely sealed within. Therefore, under normal handling of this product, no exposure to any harmful materials will occur. When the product is used, particles may be generated which may be slightly irritating to the eyes and the respiratory tract. The particles may contain trace amounts of the following harmful substances:

Lead: Ingestion of large amounts of lead can cause abdominal pain, constipation, cramps, nausea and/or vomiting. Chronic exposure to lead can cause kidney damage, anemia, reproductive effects, developmental effects and permanent nervous system damage in humans including changes in cognitive function. It is unlikely that the amount of particles that someone would be exposed to from firing a loaded round would be sufficient to cause any of these effects.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: There are no medical conditions known to be aggravated by exposure to this product in its solid form. Exposure to lead compounds in the primer can aggravate anemia, cardiovascular and respiratory disease.

SKIN:

No exposure to chemical hazards anticipated with normal handling procedures.

EYES:

No exposure to chemical hazards anticipated with normal handling procedures.

INGESTION:

No exposure to chemical hazards anticipated with normal handling procedures. Contents of this product are toxic by ingestion and in the unlikely event this should occur immediate medical attention is advised.

CARCINOGENICITY:

NTP? Yes-Lead cpds.	IARC MONOGRAPHS? Yes-Lead products (2B)	OSHA REGULATED? Yes- Lead
CALIFORNIA, Prop.65? Yes, Lead compounds and Antimony trioxide formed during use of product	ESIS NOTATION? Yes	

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SECTION 3 - HAZARDOUS INGREDIENTS

Powder Charge- Product will contain 1 or more of the following hazardous components

Hazardous Components	% (by Weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 15)
Nitrocellulose	NR	9004-70-0	NR	E,F	R1, R2, R5 ,R11
Diphenylamine	NR	122-39-4	204-539-4	T,N	R23/24/25, R33, R50/53
Tin Dioxide	NR	18282-10-5	242-159-0	None	None
Graphite	NR	7782-42-5	231-955-3	None	None
3-methyl-1,1-diphenylurea	NR	13114-72-2	236-039-7	None	None
1,3-diethyldiphenylurea	NR	85-98-3	201-645-2	None	None
Nitrosodiphenylamine	NR	86-30-6	201-663-0	None	None
Antimony Sulfide	NR	1345-04-6	231-146-5	Xn, N	R20/22, R51/53

Primer - Product will contain 1 or more of the following hazardous components

Normal Lead styphnate	NR	15245-44-0	239-290-0	E,T,N	R3, R20/22, R33, R50/53, R61, R62
Basic Lead styphnate	NR	12403-82-6	235-642-2	E,T,N	R3, R20/22, R33, R50/53, R61, R62
Lead Azide	NR	13424-46-9	236-542-1	E,T,N	R3, R20/22, R33, R50/53, R61, R62
Lead Thiocyanate	NR	592-87-0	209-774-6	T	R23/24/25
Nitrocellulose	NR	9004-70-0	NR	E,F	R1, R2, R5 ,R11
Tetracene	NR	109-27-3	203-659-4	E	R3, R5, R20/22
Potassium chlorate	NR	3811-04-9	223-289-7	Xn, O	R9, R20/22
Potassium nitrate	NR	7757-79-1	231-818-8	Xn, O	R8, R36/37/38
Barium nitrate	NR	10022-31-8	233-020-5	T, O	R8, R23/24/25
Antimony Sulfide	NR	1345-04-6	231-146-5	Xn, N	R20/22, R51/53
Zinc	NR	7440-66-6	231-175-3	N	R17, 50/53

Remainder of Product - Product will contain 1 or more of the following hazardous components

Sponge	NR	NR	NR	NR	NR
Tin	NR	7440-31-5	231-141-8	F, Xi	R11, R36/37/38
Zinc	NR	7440-66-6	231-175-3	N	R17, 50/53
Chromium	NR	7440-47-3	231-157-5	None	None
Copper	NR	7440-50-8	231-159-6	None	None
Iron	NR	7439-89-6	231-096-4	None	None
Aluminum	NR	7429-90-5	231-072-3	F	R15,R17

NOTES: This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS), and European Union Directive 1907/2006 (REACH). Hazard symbols and risk phrases are based on maximum listed concentration of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS) or the European (GHS) directive 1907/2006 and are considered trade secrets under US Federal Law (29CFR and 40CFR), Canadian Law (Health Canada Legislation), and European Union Directive 67/548/EEC.

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SECTION 4 - FIRST AID MEASURES			
INHALATION: For symptoms of lung irritation occur (coughing, wheezing or breathing difficulty), remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep affected person warm and at rest. Get medical attention.			
EYES: Remove contact lenses, then 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. For contact with burning (ignited) particles, medical treatment may be needed for thermal burns.			
INGESTION: Contact medical authorities immediately. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs naturally, have victim lean forward to avoid aspiration of regurgitant. Give 1-2 glasses of water to victim if victim is conscious and able to swallow and seek immediate medical assistance. Never give anything by mouth to an unconscious person.			
SECTION 5 - FIRE FIGHTING MEASURES			
GENERAL HAZARDS: Flammability Classification: (defined by 29 CFR 1910.1200) Explosive. Can explode under fire conditions. Individual devices will randomly explode. Will not mass explode if multiple devices are involved. Burning material may produce toxic and irritating vapors. Shrapnel may be thrown from exploding devices under containment. See 2008 Emergency response Guidebook for further information.			
EXTINGUISHING MEDIA: Flood area with water. If no water is available, carbon dioxide, dry chemical or earth may be used. If the fire reaches the cargo, withdraw and let fire burn.			
FIRE FIGHTING PROCEDURES: In case of fire, use normal fire fighting equipment. Protection concerns must also address the potential of the physical characteristic of this product as explosive. Quarantine area for at least 1500 feet from fires involving product.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: If fire reaches cargo, do not fight; withdraw personnel to safe distance. Evacuate all persons, including emergency responders from the area for 1500 feet (1/3 mile) in all directions.			
HAZARDOUS COMBUSTION PRODUCTS: Metal Compounds, Carbon Monoxide, Carbon Dioxide, Nitrous Oxides, Various complex oxides of metals, Nitrogen.			
SECTION 6 - ACCIDENTAL RELEASE MEASURES			
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTEL AT 1-800-255-3924. Spills of this material should be handled carefully. Do not subject materials to mechanical shock or extreme heat. A spill of this material will normally not require emergency response team capabilities.			
SECTION 7 - HANDLING AND STORAGE			
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: HANDLING: Cartridge may detonate or burn if case is punctured or severely damaged. STORAGE: Avoid storage near extreme heat, ignition sources or open flame. Shelf Life Limitations: Not known Incompatible Materials for Packaging: None known Incompatible Materials for Storage or Transport: Acids, Class A & B explosives, strong oxidizers, and caustics CONDITIONS TO AVOID: Mechanical impact or shock, electrical discharge, high energy EM fields (radar stations).			


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SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION			
Hazardous Components	CAS #	ACGIH Exposure Limits	OSHA Exposure Limits
Antimony Sulfide	1345-04-6	0.5 mg/m3	0.5 mg/m3
Arsenic	7440-38-2	0.01 mg/m3	0.01 mg/m3
Copper	7440-50-8	0.2mg/m3 (fume),	0.1mg/m3 (fume)
Diphenylamine	122-39-4	10 mg/m3	10 mg/m3
Glass Powder	65997-17-3	10 mg/m3 (particulate)	15 mg/m3
Graphite	7782-42-5	2 mg/m3	2.5 mg/m3 (respirable dust)
Lead	7439-92-1	0.05mg/m3 (Ceiling)	0.05mg/m3 (Ceiling)
Magnesium Carbonate	546-93-0	NE	15 mg/m3 total , 5 mg/m3 respirable
Manganese	7439-96-5	0.2 mg/m3	5 mg/m3 (Ceiling)
Nickel	7440-02-0	1.5 mg/m3 (respirable)	1 mg/m3
Tin	7440-31-5	2 mg/m3	2 mg/m3
Tin Dioxide	18282-10-5	2 mg/m3	2 mg/m3 (as Tin)
Tungsten	7440-33-7	5 mg/m3 TWA, 10 mg/m3 (STEL)	NE
Components not listed above do not have published exposure limits from ACGIH or OSHA.			
PERSONAL PROTECTION			
RESPIRATORY PROTECTION:			
Respiratory protection not normally needed. Mask should be worn while cleaning debris from weapons			
PROTECTIVE GLOVES:			
None required for normal handling.			
EYE PROTECTION:			
Safety glasses with side shields required.			
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:			
Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation. Use hearing protection with this product.			
WORK / HYGIENIC PRACTICES:			
Avoid breathing fumes from ignition. DO NOT EAT/DRINK/SMOKE WHILE HANDLING PRODUCT!!!			
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES			
APPEARANCE AND ODOR		VAPOR PRESSURE	
Round Containing Sponge/ Powder Charge / Primer		Not applicable.	
pH		SPECIFIC GRAVITY (WATER = 1)	
Not applicable.		Not applicable	
MELTING POINT		SOLUBILITY IN WATER	
Not applicable.		Insoluble - some components are soluble in water	
FLASH POINT		VISCOSITY	
Not applicable.		Not applicable	
FLAMMABLE LIMITS		VAPOR DENSITY (AIR = 1)	
EXPLOSIVE!!		Not applicable.	
LEL: None UEL: None			
AUTOIGNITION TEMPERATURE		EVAPORATION RATE (WATER = 1)	
NR		Not applicable.	
VOLATILE ORGANIC COMPOUND (VOC) INFORMATION			
Not applicable.			
NOTES:			




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SECTION 10 - STABILITY AND REACTIVITY			
STABILITY		STABLE X	CONDITIONS TO AVOID:
Stable under normal temperatures and pressure.			Cartridge may detonate if case is punctured or severely damaged.
INCOMPATIBILITY (MATERIALS TO AVOID): Acids, Class A & B explosives, strong oxidizers, and caustics.			
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Nitrogen oxides, carbon monoxide, lead oxides, carbon dioxide, lead dust/fume.			
HAZARDOUS POLYMERIZATION: Will not occur.		CONDITIONS TO AVOID: None related to polymerization.	
SECTION 11 - TOXICOLOGICAL INFORMATION			
Complete Product			
Oral LD ₅₀	NA		
Dermal LD ₅₀	NA		
Inhalation LC ₅₀	Not applicable for product. Particles generated from use may be irritating or slightly toxic.		
Irritation	Not a skin or eye irritant as a loaded round. Particulate dusts and gases from spent round may be a mild respiratory / eye irritant.		
Product Components			
Hazardous Components	CAS #	LD50 of Ingredient (Oral, Rat - unless otherwise specified)	LC50 of Ingredient (Inhalation, Rat - unless otherwise specified)
1,3-diethyldiphenylurea	85-98-3	7809mg/kg	Not Established
3-methyl-1,1-diphenylurea	13114-72-2	2930mg/kg	Not Established
Antimony	7440-36-0	7 g/kg	Not Established
Antimony Sulfide	1345-04-6	7000 mg/kg	Not Established
Arsenic	7440-38-2	763 mg/kg	Not Established
Barium nitrate	10022-31-8	355 mg/kg	Not Established
Basic Lead styphnate	12403-82-6	650 mg/kg	Not Established
Bismuth	7440-69-9	5000 mg/kg	Not Established
Boron	7440-42-8	650 mg/kg	Not Established
Chromium	7440-47-3	5045 mg/kg	Not Established
Copper	7440-50-8	413 mg/kg (oral, mouse)	> 1000 mg/m3
Diphenylamine	122-39-4	1120 mg/kg	Not Established
Iron	7439-89-6	30 g/kg	Not Established
Lead	7439-92-1	Not Established	IARC: Group 2A carcinogen
Manganese	7439-96-5	9 gm/kg	Not Established
Nitrocellulose	9004-70-0	> 5 g/kg	Not Established
Normal Lead styphnate	15245-44-0	650 mg/kg	Not Established
Potassium chlorate	3811-04-9	1870 mg/kg	Not Established
Silicon	7440-21-3	3160 mg/kg	Not Established
Tetracene	109-27-3	1 – 3 g/kg	Not Established
Tin Dioxide	18282-10-5	>20 gm/kg	Not Established
Zinc	7440-66-6	> 8,437 mg/kg	Not Established
No LD50 or LC50 information is available for the following components: Aluminum, Calcium Silicide, Charcoal, Glass Powder, Graphite, Lead, Lead Azide, Lead Thiocyanate, Magnesium, Nickel, Nitrosodiphenylamine, Polyester Adipate, Potassium perchlorate, Tin, Tungsten			
SECTION 12 - ECOLOGICAL INFORMATION			
No data is available on this product, but leachates of metal components may be harmful or toxic to aquatic life and waterfowl. Collection and careful disposal of spent rounds is highly advisable. Lead and nickel are especially problematic when introduced into many ecosystems.			

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PRODUCT NAME: eXact iMPact 40mm Sponge Round		DATE: March 15, 2010	
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SECTION 13 - DISPOSAL CONSIDERATIONS			
<p>WASTE DISPOSAL METHOD:</p> <p>The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous. Damaged materials pose a danger to anyone in the immediate area; consult experts for disposal of damaged products.</p>			
SECTION 14 - TRANSPORT INFORMATION			
PROPER SHIPPING NAME: Cartridges For Weapons, Inert Projectile, UN0012			
DOT HAZARD CLASS / Pack Group: Explosives, 1.4S/ II		IATA HAZARD CLASS / Pack Group: 1.4S/pgII, 25Kg Passenger, 100Kg Cargo.	
REFERENCE: 49CFR		IMDG HAZARD CLASS: Explosives, 1.4S/ II	
UN / NA IDENTIFICATION NUMBER: UN0012		RID/ADR Dangerous Goods Code: Explosives, 1.4S/ II	
LABEL: Explosives 1.4S		UN TDG Class / Pack Group: Explosives, 1.4S/ II	
HAZARD SYMBOLS: <div style="text-align: center; margin: 10px 0;">  </div>		Hazard Identification Number (HIN): NA	
<p>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.</p>			
SECTION 15 - REGULATORY INFORMATION			
TSCA (USA - Toxic Substance Control Act): Components are listed under Section 8b.			
SARA TITLE III (USA - Superfund Amendments and Reauthorization Act):			
Acute Health: YES		Chronic Health: YES	
Fire: YES		Sudden Release of Pressure: YES	
Reactive: NO			
SARA 313 REPORTABLE INGREDIENTS: Copper, Zinc (fume or dust), Lead, Antimony.			
CERCLA (USA - Comprehensive Response Compensation and Liability Act): Copper, R.Q. = 5000 lbs.; Zinc, R.Q. = 1000 lbs.; Lead, R.Q. = 10 lbs.; Antimony, R.Q. = 5000 lbs. (No reporting is required if diameter of the pieces of metal is equal to or exceeds 100 micrometers (0.004 inches).			
California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: Lead Compounds / Antimony Trioxide from Use.			
State Right To Know Laws: This product contains chemicals listed on the Right-to-Know Laws of CA, FL, MA, MI, MN, NJ, PA, & RI.			
CPR (Canadian Controlled Products Regulations):		Exempt under WHMIS regulations as explosive.	
IDL (Canadian Ingredient Disclosure List):		Components are listed in Section 2.	
DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): Listed or exempt on both CDSL and NDSL.			

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SECTION 15 - REGULATORY INFORMATION Continued			
EINECS (European Inventory of Existing Commercial Chemical Substances):		Referenced.	
WGK Water Quality Index:		NA for product.	
EUROPEAN (GHS) HAZARD SYMBOLS			
			
EU RISK PHRASES			
R2: Risk of explosion by shock, friction, fire or other sources of ignition. R20/22: Harmful by inhalation and if swallowed. R33: Danger of cumulative effects. R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R61: May cause harm to the unborn child. R62: Possible risk of impaired fertility.			
EU SAFETY PHRASES			
S1/2: Keep locked up and out of the reach of children. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S53: Avoid exposure — obtain special instructions before use. S60: This material and its container must be disposed of as hazardous waste.			
SECTION 16 - OTHER INFORMATION			
HMIS HAZARD RATINGS			
HEALTH:		2	0 = INSIGNIFICANT 1 = SLIGHT 2 = MODERATE 3 = HIGH 4 = EXTREME
FLAMMABILITY:		3	
PHYSICAL HAZARD:		2	
Personal Protective Equipment: B			
Legend:			
ACGIH - American Congress of Government Industrial Hygienists , CAS - Chemical Abstracts Service EINECS - European Inventory of Existing Commercial Chemical Substances HMIS - Hazardous Materials Identification System, IARC - International Agency for Research on Cancer NA - Not Available , ND - Not Determined, NE - Not Established, NR - Not Reported NIOSH - National Institute for Occupational Safety and Health, NTP - National Toxicology Program OSHA - Occupational Safety and Health Administration			
Full R-Phrases: R1 Explosive when dry. R2 Risk of explosion by shock, friction, fire or other sources of ignition. R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition. R5 Heating may cause an explosion. R8 Contact with combustible material may cause fire. R9 Explosive when mixed with combustible material. R11 Highly flammable. R15 Contact with water liberates extremely flammable gases. R17 Spontaneously flammable in air. R20 Harmful by inhalation. R20/22 Harmful by inhalation and if swallowed. R22 Harmful if swallowed. R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R23/25 Toxic by inhalation and if swallowed. R33 Danger of cumulative effects. R36 Irritating to eyes. R36/37/38 Irritating to eyes, respiratory system and skin. R40 Limited evidence of a carcinogenic effect. R43 May cause sensitisation by skin contact. R45 May cause cancer. R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed. R50 Very toxic to aquatic organisms. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R61 May cause harm to the unborn child. R62 Possible risk of impaired fertility. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness. R68 Possible risk of irreversible effects.			
REVISION SUMMARY:			
MSDS Prepared by: ChemTel Inc. 1305 North Florida Avenue Tampa, Florida USA 33602-2902 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573 Website: www.chemtelinc.com			
The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.			