





# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and  
GHS

Printing date: September 10, 2014

Revision: September 10, 2014

**Trade name: eXact iMPact™ 40MM Round (LE Extended Range)**

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Warning: Contains lead salt(s). Long-term health hazard.

· **HMIS Long Term Health Hazard Substances**

122-39-4	diphenylamine
15245-44-0	lead 2,4,6-trinitro-m-phenylene dioxide

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Explosive Product Notice**

PREVENTION OF ACCIDENTS IN THE USE OF EXPLOSIVES - The prevention of accidents in the use of explosives is a result of careful planning and observance of the best known practices. The explosives user must remember that he is dealing with a powerful force and that various devices and methods have been developed to assist him in directing this force. He should realize that this force, if misdirected, may either kill or injure both him and his fellow workers.





WARNING - All explosives are dangerous and must be carefully handled and used following approved safety procedures either by or under the direction of competent, experienced persons in accordance with all applicable federal, state, and local laws, regulations, or ordinances. If you have any questions or doubts as to how to use any explosive product, DO NOT USE IT before consulting with your supervisor, or the manufacturer, if you do not have a supervisor. If your supervisor has any questions or doubts, he should consult the manufacturer before use.

## SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 9004-70-0 EC number: 603-037-0	Nitrocellulose, colloidied, granular  E R3  Expl. 1.1, H201	50-100%
CAS: 85-98-3 EINECS: 201-645-2	1,3-diethyldiphenylurea  Xn R22  Acute Tox. 4, H302 Aquatic Chronic 3, H412	5-10%
CAS: 7439-89-6 EINECS: 231-096-4	iron substance with a Community workplace exposure limit	5-10%
CAS: 7440-50-8 EINECS: 231-159-6	copper substance with a Community workplace exposure limit	1-5%

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CAS: 122-39-4 EINECS: 204-539-4 Index number: 612-026-00-5	diphenylamine  T R23/24/25;  N R50/53 R33  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  STOT RE 2, H373  Aquatic Acute 1, H400; Aquatic Chronic 1, H410	1-5%
CAS: 7440-66-6	zinc metal  N R50/53  Aquatic Acute 1, H400; Aquatic Chronic 1, H410	1-5%
CAS: 15245-44-0 EINECS: 239-290-0 Index number: 609-019-00-4	lead 2,4,6-trinitro-m-phenylene dioxide  T Repr. Cat. 1, 3 R61;  Xn R62-20/22;  E R3;  N R50/53 R33  Unst. Expl., H200  Repr. 1A, H360Df; STOT RE 2, H373  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Acute Tox. 4, H302; Acute Tox. 4, H332	< 1,0%
· <b>SVHC</b>		
15245-44-0	lead 2,4,6-trinitro-m-phenylene dioxide	
· <b>Additional information:</b> For the wording of the listed risk phrases refer to section 16.		

## SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Unlikely route of exposure.  
Brush off loose particles from skin.  
If skin irritation is experienced, consult a doctor.
- **After eye contact:**  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** Blast injury if mishandled.
- **Hazards** Danger of blast or crush-type injuries.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

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## SECTION 5: Firefighting measures

### · 5.1 Extinguishing media

#### · Suitable extinguishing agents:

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.

#### · For safety reasons unsuitable extinguishing agents: None.

### · 5.2 Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

Product may explode if burned in confined space. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely.

### · 5.3 Advice for firefighters

#### · Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

#### · Additional information

Cool endangered receptacles with water spray.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Eliminate all ignition sources if safe to do so.

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. In unusual cases, shrapnel may be thrown from exploding devices under containment. See 2008 Emergency response Guidebook for further information.

## SECTION 6: Accidental release measures

### · 6.1 Personal precautions, protective equipment and emergency procedures

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.

Wear protective equipment. Keep unprotected persons away.

Remove persons from danger area.

Ensure adequate ventilation

Protect from heat.

Isolate area and prevent access.

### · 6.2 Environmental precautions: No special measures required.

### · 6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

Send for recovery or disposal in suitable receptacles.

### · 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Handle with care. Avoid jolting, friction and impact.
- **Information about fire - and explosion protection:**  
Protect from heat.  
Emergency cooling must be available in case of nearby fire.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from flammable substances.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

### Ingredients with limit values that require monitoring at the workplace:

#### 7439-89-6 iron

EV (Canada)	Long-term value: 1* 5** mg/m <sup>3</sup> as iron;*salts, water-soluble;**welding fume
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#### 7440-50-8 copper

PEL (USA)	Long-term value: 1* 0,1** mg/m <sup>3</sup> as Cu *dusts and mists **fume
REL (USA)	Long-term value: 1* 0,1** mg/m <sup>3</sup> as Cu *dusts and mists **fume
TLV (USA)	Long-term value: 1* 0,2** mg/m <sup>3</sup> *dusts and mists; **fume; as Cu
EL (Canada)	Long-term value: 1* 0,2** mg/m <sup>3</sup> *dusts and mists; **fume, as Cu
EV (Canada)	Long-term value: 0,2* 1** mg/m <sup>3</sup> as copper, *fume;**dust and mists

#### 122-39-4 diphenylamine

REL (USA)	Long-term value: 10 mg/m <sup>3</sup>
TLV (USA)	Long-term value: 10 mg/m <sup>3</sup>
EL (Canada)	Long-term value: 10 mg/m <sup>3</sup>
EV (Canada)	Long-term value: 10 mg/m <sup>3</sup>

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## 15245-44-0 lead 2,4,6-trinitro-m-phenylene dioxide

EV (Canada)	Long-term value: 0,05 mg/m <sup>3</sup> as Pb, Skin (organic compounds)
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- **DNELs** No further relevant information available.
  - **PNECs** No further relevant information available.
  - **Additional information:** The lists valid during the making were used as basis.
  - **8.2 Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
  - **Respiratory protection:** Not required under normal conditions of use.
  - **Protection of hands:**  
Wear gloves for the protection against mechanical hazards according to NIOSH or EN 388.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
  - **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
  - **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - **Eye protection:**
-  Safety glasses
- **Body protection:** Protective work clothing
  - **Limitation and supervision of exposure into the environment**  
No further relevant information available.
  - **Risk management measures**  
See Section 7 for additional information.  
Organizational measures should be in place for all activities involving this product.  
No further relevant information available.

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Solid metal container containing liquid and solid contents.
<b>Colour:</b>	According to product specification

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- **Odour:** Odourless
- **Odour threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
  - Melting point/Melting range:** Not Determined.
  - Boiling point/Boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Auto/Self-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self-igniting:** Product is not self-igniting.
- **Danger of explosion:** Heating may cause an explosion.
- **Explosion limits:**
  - Lower:** Not determined.
  - Upper:** Not determined.
- **Vapour pressure:** Not applicable.
- **Density:** Not determined.
- **Relative density** Not determined.
- **Vapour density** Not applicable.
- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with water:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not applicable.
  - Kinematic:** Not applicable.
- **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**  
Danger of explosion.  
Toxic fumes may be released if heated above the decomposition point.  
Reacts with strong acids and alkali.  
Reacts violently with oxidizing agents.
- **10.4 Conditions to avoid** Sources of ignition, open flame, incompatible materials.

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- **10.5 Incompatible materials:** Oxidizers
- **10.6 Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides  
Sulphur oxides (SOx)

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

### 122-39-4 diphenylamine

Oral	LD50	1120 mg/kg (rat)
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### 15245-44-0 lead 2,4,6-trinitro-m-phenylene dioxide

Oral	LD50	650 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:**  
Not a skin irritant in unused form. Vapors/particles from used product are possibly irritating to skin.
- **on the eye:**  
Not an eye irritant in unused form. Vapors/particles from used product are possibly irritating to eyes.
- **Additional toxicological information:**

Normal handling of the undeployed 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 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 irritating to the eyes and the respiratory tract.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** May be accumulated in organism
- **12.4 Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Harmful to fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary

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Harmful to aquatic organisms

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.

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.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

## SECTION 14: Transport information

· **14.1 UN-Number**

· **DOT, ADR, IMDG, IATA**

UN0012

· **14.2 UN proper shipping name**

· **DOT, IMDG, IATA**

· **ADR**

CARTRIDGES FOR WEAPONS, INERT PROJECTILE  
0012, CARTRIDGES FOR WEAPONS, INERT  
PROJECTILE

· **14.3 Transport hazard class(es)**

· **DOT, ADR, IMDG**



· **Class**

1.4

· **Label**

1.4S

· **IATA**



· **Class**

1.4

· **Label**

1.4S

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<b>· IARC (International Agency for Research on Cancer)</b>	
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None of the ingredients is listed.	
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<b>· TLV (Threshold Limit Value established by ACGIH)</b>	
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122-39-4	diphenylamine	A4
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<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
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None of the ingredients is listed.	
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<b>· Canada</b>	
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<b>· Canadian Domestic Substances List (DSL)</b>	
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All ingredients are listed.	
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<b>· Canadian Ingredient Disclosure list (limit 0.1%)</b>	
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122-39-4	diphenylamine
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<b>· Canadian Ingredient Disclosure list (limit 1%)</b>	
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7440-50-8	copper
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<b>· Other regulations, limitations and prohibitive regulations</b>	
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This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.	
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<b>· Substances of very high concern (SVHC) according to REACH, Article 57</b>	
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15245-44-0	lead 2,4,6-trinitro-m-phenylene dioxide
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<b>· 15.2 Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.	
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## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

<b>· Relevant phrases</b>	
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H200	Unstable explosives.
H201	Explosive; mass explosion hazard.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
.....	
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.
R3	Extreme risk of explosion by shock, friction, fire or other sources of ignition.

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- 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.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 WHMIS: Workplace Hazardous Materials Information System (Canada)  
 DNEL: Derived No-Effect Level (REACH)  
 PNEC: Predicted No-Effect Concentration (REACH)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 Expl. 1.1: Explosives, Division 1.1  
 Expl. 1.4: Explosives, Division 1.4  
 Unst. Expl.: Explosives, Unstable explosives  
 Acute Tox. 3: Acute toxicity, Hazard Category 3  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 Repr. 1A: Reproductive toxicity, Hazard Category 1A  
 STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
 Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1  
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1  
 Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2  
 Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

· **Sources**

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