

SAFETY DATA SHEET



ELECTRIC SUPER STARTER

Infosafe No.: LPYP9
Issued Date: 06/02/2015
Issued by: Dyno Nobel Asia Pacific Pty
Limited

1. IDENTIFICATION

GHS Product Identifier
ELECTRIC SUPER STARTER

Product Code

Company Name
Dyno Nobel Asia Pacific Pty Limited

Address
282 Paringa Road
Gibson Island
Murarrie, QLD 4172
Australia

Telephone/Fax Number
Tel: (07) 3026 3900
Fax: (07) 3026 3999

Emergency phone number
1800 098 836

Recommended use of the chemical and restrictions on use
Initiating explosive charges.

Other Names

Name	Product Code
ELECTRIC SUPER LP	

Additional Information

Note: This substance is an explosive product classified Class 1.1B Dangerous Goods.

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Explosives: Division 1.1
Acute Toxicity - Inhalation: Category 4
Acute Toxicity - Oral: Category 4
Toxic to Reproduction: Category 1
STOT Repeated Exposure Category 2

Signal Word (s)

DANGER

Hazard Statement (s)

H201 Explosive; mass explosion hazard.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

Pictogram (s)

Exploding bomb, Exclamation mark, Health hazard

**Precautionary statement – Prevention**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240 Ground/bond container and receiving equipment.

P250 Do not subject to grinding/shock/friction.

P260 Do not breathe dust/fume/gases.

P264 Wash contaminated skin thoroughly after handling

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

Precautionary statement – Response

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P308+P313 IF exposed or concerned: Get medical advice/ attention.

P370+P380 In case of fire: Evacuate area.

P372 Explosion risk in case of fire.

P373 DO NOT fight fire when fire reaches explosives.

Precautionary statement – Storage

P401 Store in a cool, dry, well ventilated magazine licensed for Class 1.1B Explosives.

P405 Store locked up.

Precautionary statement – Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

Supplemental Information

The information under this heading is not mandatory under WHS Regulations. It is provided as information on other GHS hazard classes and categories and/or environmental hazards that are outside the scope of the WHS Regulations.

GHS classification: Hazardous to the Aquatic Environment - Long-Term Hazard: Category 2 Hazard statement: H411. Precautionary statement: P273; P391. Pictogram: Environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Information on Composition**

Contains barium salts and lead compounds.

Ingredients

Name	CAS	Proportion
Pentaerythritol tetranitrate (PETN)	78-11-5	30-60 %
Barium Chromate	10294-40-3	10-<30 %
Tungsten	7440-33-7	0-<10 %
Lead Dioxide	1309-60-0	0-<10 %
Boron	7740-42-8	0-<10 %
Potassium Perchlorate	7778-74-7	0-<10 %
DDNP (Diazodinitrophenol)	4682-03-5	0-<10 %
Nitrocellulose	9004-70-0	0-<10 %

4. FIRST-AID MEASURES

Inhalation

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion

Unlikely due to form of product. However, if ingested, do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin

Wash affected area thoroughly with soap and water. If symptoms develop seek medical attention.

Eye contact

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and/or persist seek medical attention.

First Aid Facilities

Eyewash and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE-FIGHTING MEASURES

Fire Fighting Measures

Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2, 500 feet in all directions. Evacuate up wind of the fire as hazardous decomposition products include lead fumes.

Suitable Extinguishing Media

DO NOT FIGHT FIRES. Immediately isolate area and evacuate personnel to a safe distance.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes including lead, chromium and barium compounds, carbon monoxide and carbon dioxide.

Special Protective Equipment for fire fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode.

Specific Hazards Arising From The Chemical

Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Hazchem Code

E

Decomposition Temperature

Not available

Precautions in connection with Fire

Do not attempt to fight fires involving explosive materials. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use only remote or fixed extinguishing systems (sprinklers).

6. ACCIDENTAL RELEASE MEASURES**Emergency Procedures**

Avoid breathing fumes or gases from detonation of explosives. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean approved container. Ensure that a complete account of product has been made and is verified. If loose explosive powder is spilled, such as from a broken detonator, only properly qualified and authorised personnel should be involved with handling and clean-up activities. Spilled explosive powder is extremely sensitive to initiation and may detonate. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

Surplus or defective explosives must not be placed in any waterway, thrown away, discarded or placed with rubbish.

Destruction of explosives must be carried out by suitably qualified personnel. If necessary, the relevant statutory authorities must be notified. In all circumstances, detonation is the preferred method of disposal.

The residue from spills and the burning of explosives may be toxic to livestock and/or wildlife.

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean, approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State, and local spill reporting requirements.

7. HANDLING AND STORAGE**Precautions for Safe Handling**

Only properly qualified and authorised personnel should handle and use explosives. Handle with great care. Unintended detonation of explosives or explosive devices can cause serious injury or death. Use in designated areas with adequate ventilation. Avoid sources of shock, friction, heat and ignition. Avoid contact with oxidising materials. Detonation in confined or unventilated areas may result in exposure to hazardous fumes or oxygen deficiency. Have emergency equipment (for spills, leaks, etc.) readily available. Label containers. Keep containers closed when not in use. Wear appropriate protective equipment to prevent inhalation, skin and eye contact. Maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated magazine licensed for Class 1.1B Explosives. Keep storage area free of sources of shock, friction, heat, ignition and combustible materials. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Always keep in containers made of the same material as the supply container. Have appropriate fire extinguishers available in and near the storage area. Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous. Reference should be made to Australian Standard AS 2187 Explosives - Storage, transport and use - Storage. Reference should also be made to all State and Federal regulations.

Avoid undue force on detonator shell. Detonators should never be stored with explosives and must be stored separately in a detonator magazine or store. Keep away from heat, flame, ignition sources and avoid strong shock. Do not attempt to disassemble. Store and transport in accordance with Local, State and Federal requirements.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational exposure limit values**

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Chromium (VI) compounds (as Cr), certain water insoluble

TWA: 0.05 mg/m³

NOTICES: Sen

Lead, inorganic dusts & fumes (as Pb)

TWA: 0.15 mg/m³

Tungsten, insoluble compounds (as W)

TWA: 5 mg/m³

STEL: 10 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

'Sen' Notice: The substance may cause sensitisation by skin contact or by inhalation

Biological Limit Values

Name: LEAD [7439-92-1] [See Note below]

Determinant: Lead

Specimen: Blood

Value: 30 ug/100 ml

Sampling time: Not critical

Note:

Women of child bearing potential, whose blood Pb exceeds 10 ug/dl, are at risk of delivering a child with a blood Pb over the current Centers for Disease Control guideline of 10 ug/dl. If the blood Pb of such children remains elevated, they may be at increased risk of cognitive deficits. The blood Pb of these children should be closely monitored and appropriate steps should be taken to minimize the child's exposure to environmental lead. (CDC: Preventing Lead Poisoning in Young Children, October 1991; See BEI® and TLV® Documentation for Lead).

Source: American Conference of Industrial Hygienists (ACGIH)

Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing solid/dust away from workers' breathing zone.

When test firing, ensure sufficient ventilation to keep airborne concentrations below exposure limits. Mechanical exhaust ventilation may be required.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material (PVC or neoprene gloves). Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable protective clothing should be worn e.g. cotton overalls buttoned at neck and wrist. When this product is handled the use of plastic aprons and rubber boots is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties	Description	Properties	Description
Appearance	Metal tube closed at one end, capped at the other with electric leg wires.	Colour	Not available
Odour	Not available	Decomposition Temperature	Not available
Melting Point	Not available	Boiling Point	Not available
Solubility in Water	Insoluble	Specific Gravity	Not available
pH	Not available	Vapour Pressure	Not available
Vapour Density (Air=1)	Not available	Evaporation Rate	Not available
Odour Threshold	Not available	Viscosity	Not available
Partition Coefficient: n-octanol/water	Not available	Flash Point	Not available
Flammability	Explosive material - avoid all ignition sources and sources of heat.	Auto-ignition Temperature	Not available
Explosion Limit - Upper	Not available	Explosion Limit - Lower	Not available
Explosion Properties	Not available	Oxidising Properties	Not available
Melting/Freezing Point	Not available		

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions, may explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.

Conditions to Avoid

Avoid sources of heat and incompatible materials.

Incompatible materials

Avoid contact with other explosives, pyrotechnics, solvents, acids, alkalis, reducing agents, amines, phosphorous, organic materials/compounds, finely divided combustible materials, finely divided metals and metal oxides.

Hazardous Decomposition Products

Thermal decomposition may result in the release of toxic and/or irritating fumes: Carbon Monoxide(CO), Nitrous Oxides(NOx), Lead(Pb) and various oxides and complex oxides of metals.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

This is a packaged product that will not result in exposure to the explosive material under normal conditions of use. Exposure concerns are primarily with post-detonation reaction products, particularly heavy metal compounds. Repeated inhalation or ingestion of postdetonation reaction products may lead to systemic effects such as respiratory tract irritation, ringing of the ears, dizziness, elevated blood pressure, blurred vision and tremors. Heavy metal (lead) poisoning can occur.

Ingestion

Harmful if swallowed. Ingestion of this product may cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

Inhalation

Harmful if inhaled. Inhalation of product dust can cause irritation of the nose, throat and respiratory system. Inhalation of product vapours will cause irritation of the nose, throat and respiratory system. Avoid breathing fumes from detonation. As a result of detonation only: Nitrogen (N₂), Carbon Monoxide (CO), Water (H₂O), Nitrous Oxides (NO_x), Lead (Pb) and various oxides and complex oxides of metals.

Skin

May be irritating to skin. The symptoms may include redness and itching.

Eye

May be irritating to eyes. The symptoms may include redness, itching and tearing.

Respiratory sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

Not expected to be a skin sensitiser.

Germ cell mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Not considered to be a carcinogenic hazard.

Barium Chromate - (Chromium (VI) compounds) is listed as a Group 1: Carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Lead Dioxide - (Lead compounds, inorganic) is listed as a Group 2A: Probably carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Nitrocellulose - (Nitrate or nitrite (ingested) under conditions that result in endogenous nitrosation) is listed as a Group 2A: Probably carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity

May damage fertility or the unborn child. Classified as a Known or presumed human reproductive or developmental toxicant.

STOT-single exposure

Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard

Not expected to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Persistence and degradability

Not available

Mobility

Not available

Bioaccumulative Potential

Not available

Environmental Protection

Do not discharge this material into waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal considerations

Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

Destruction of explosives must be carried out by suitably qualified and licensed personnel. If necessary, the relevant Statutory Authorities must be notified.

In all circumstances, detonation is the preferred method of disposal.

Detonators with shunted wires should be taped onto a cap sensitive cartridge explosive. Up to 100 detonators may be disposed of at one time. Shunted leg wires should be bundled together and the charge, primed with a good detonator, placed with the detonators pointing down into a hole which is at least 0.6 m deep. The charge is covered with paper or plastic and the hole backfilled with sand or stone-free soil. Personnel must be evacuated to a safe distance in accordance with relevant local regulations prior to initiation of the charge. After detonation the area is inspected for any unexploded detonator. Leg wires are to be disposed of in landfill in accordance with local regulations.

14. TRANSPORT INFORMATION

Transport Information

Road and Rail:

Classified as a Class 1 (Explosives) Dangerous Goods according to The Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition) and Australian Code for the Transport of Explosives (3rd edition).

Class 1 Dangerous Goods are incompatible in a placard load with any of the following:

- Division 2.1, Flammable Gases
- Division 2.2, Non-flammable Non-toxic Gases
- Division 2.3, Toxic Gases
- Class 3, Flammable Liquids
- Division 4.1, Flammable Solids
- Division 4.2, Spontaneously Combustible Substances
- Division 4.3, Dangerous When Wet Substances
- Division 5.1, Oxidising Agents
- Division 5.2, Organic Peroxides
- Class 6, Toxic and Infectious Substances
- Class 7, Radioactive Substances
- Class 8, Corrosive Substances
- Class 9 - Miscellaneous Dangerous Goods
- Fire risk substances

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Division: 1.1B

Packaging Group: see 'Other information' (*)

EmS: F-B,S-X

UN-No: 0030

Proper Shipping Name: DETONATORS, ELECTRIC

Special Provision: None

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN-No: 0030

Division: 1.1B

Packaging Group: see 'Other information' (*)

Proper Shipping Name: Detonators, Electric

Packaging Instructions (cargo): Forbidden

Packaging Instructions (passenger): Forbidden

Special Provision: None

U.N. Number

0030

UN proper shipping name

DETONATORS, ELECTRIC

Transport hazard class(es)

1.1B

Packing Group

see 'Other information' (*)

Hazchem Code

E

IERG Number

02

IMDG Marine pollutant

Yes

Transport in Bulk

Not available

Other Information

(*) Unless specific provision to the contrary is made, the packagings used for explosives shall comply with at least the requirements for solids or liquids (as appropriate) of Packing Group II (medium danger).

Further information related to packaging, IBCS and Unit loads for explosives can be obtained from Australian Explosives Code.

15. REGULATORY INFORMATION

Regulatory information

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). (exempted)

This product contains Barium Chromate, Nitrocellulose, Lead Dioxide which are listed as a restricted hazardous chemical in the Model Work Health and Safety Regulations, 2011

Poisons Schedule

Not Scheduled

Australia (AICS)

The listed chemicals are included in Australian Inventory of Chemical Substances (AICS) or otherwise notified under NICNAS.

16. OTHER INFORMATION

Date of preparation or last revision of SDS

SDS amendment: April 2016

SECTION 15 - Regulatory Information

SDS Reviewed: February 2015; SDS superseded: January 2010

References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice

Standard for the Uniform Scheduling of Medicines and Poisons.

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Workplace exposure standards for airborne contaminants, Safe work Australia.

American Conference of Industrial Hygienists (ACGIH)

Globally Harmonised System of classification and labelling of chemicals.

Contact Person/Point

Dyno Nobel Asia Pacific Limited

Mt Thorley Technical Centre

Telephone: +61 2 6574 2500

Fax: +61 2 65 74 6849

DISCLAIMER: The information and suggestions above concern explosive products which should only be dealt with by persons having appropriate technical skills, training and licences. The results depend to a large degree on the conditions under which the products are stored, transported and used.

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END OF SDS

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