

SECTION 1: IDENTIFICATION OF MATERIAL AND SUPPLIER

PRODUCT NAME: Pyrotechnic / Technical **Thermit Igniter** **OTHER NAME:** Thermit stars
PRODUCT CODE: 1700208445 **USE:** Igniter for 'Thermite' process of continuous railway track welding
UN NUMBER: 0454
HAZCHEM CODE: E
DANGEROUS GOODS CLASS & SUB RISK: 1.4S
SUPPLIER: Howard & Sons Pyrotechnics (MFG) P/L, 581 Portland Road, Wallerawang, NSW 2845, Australia
TELEPHONE: (612) 63 557 301 **EMERGENCY TELEPHONE NUMBERS:** 0418 218 432 / 0419 270 535

SECTION 2: HAZARDS IDENTIFICATION

CLASSIFICATION: Dangerous Goods Non hazardous substance as per [NOHSC 1008:2004]
FIRE HAZARD: Product contains pyrotechnic substances capable of burning with intense heat
 Produces oxides of sulphur, carbon, nitrogen and metal slag. Produces an intense flame in excess of 1300 degrees centigrade
RISK PHRASE: R36/37 Smoke produced may be irritating to the eyes and respiratory system
POISONS SCHEDULE: None allocated
SAFETY PHRASE: S15/16 Keep away from flame sparks and sources of heat.
 Ensure that the product remains packed in the UN approved packaging until use

SECTION 3: COMPOSITION INFORMATION

Composition defined as per Chemical Abstracts Service number registry

PROPER SHIPPING NAME & CHEMICAL IDENTITY	CAS NUMBER	PROPORTION
Barium Nitrate	10022-31-8	HIGH
Potassium Nitrate	7757-79-1	MED
Sulfur	7704-34-9	MED
Aluminium Mesh	7429-90-5	LOW

= 100%

PROPORTION (% weight per weight) VHIGH= >60, HIGH= 30 – 60, MED= 10 – 29, LOW= 1 – 9, VLOW <1

TECHNICAL SPECIFICATIONS:

Effect Description	Produces an intense flame						
Star diameter	10mm			Star Length		10mm	
Effect Height	NA	Effect Width	NA	Burn Time	15secs		
Plastic Weight	12gms	Paper Weight	NA	Clay Weight	NA	Fuse Head	NA
NEQ Stars	NA	NEQ Inserts	NA	NEQ B/P dr	NA	NEQ F/P dr	NA
NEQ Total	66gms	Total Gross weight of Product: +/-0.25gms			66gms		
Cannister height	80mm	S/Boxes Per Carton		NA	Carton Size CMB		NA
Cannister dia	50mm		Packing	approx 55 stars	Cannister weight Gross		78gms
Cannister weight Net	12gms	Carton Weight Net		NA	Carton Weight Gross		NA
Firing Controls	Light with a gas flame from a safe distance						
Set Up	Refer to operational instructions for thermite track welding process						

SECTION 4: FIRST AID MEASURES

ROUTES OF EXPOSURE

SWALLOWED: Not applicable

EYE: Hold eyes open and wash continuously with water for 15 minutes. Transport affected Person to a doctor or hospital.

SKIN: Remove all contaminated clothing, including shoes. Wash affected areas with water.

INHALED: Remove patient to fresh air, lay down and rest. If patient is not breathing, make sure airway is cleared and apply artificial respiration. Call doctor at once or transport patient to doctor or a hospital.

BURNS: Immerse affected area in cold water for 10 to 15 minutes. Bandage lightly with sterile dressing. Treat for shock if required. Transport to doctor or hospital.

ACUTE OR CHRONIC EXPOSURE:

There have been no reports in the literature of detrimental health effects in workers from Long term exposure to the substances composite in this product.

SECTION 5: FIRE FIGHTING MEASURES

**DO NOT FIGHT EXPLOSIVE FIRES
CONSULT THE EMERGENCY PROCEEDURE GUIDE TRAVELLING WITH THIS PRODUCT FOR
FIRE SITE SPECIFIC FIRE FIGHTING PROCEDURES AND EVACUATION DISTANCES.**

HAZ CHEM CODE: **E** EXTIGUISHING MEDIA: **Water** SPECIFIC HAZARD: **Intense flame**
DO NOT USE POWDER OR Co2 FIRE EXTINGUISHERS.

PERSONAL PROTECTION EQUIPMENT

Wear Boots, overalls, gloves, breathing apparatus and protective head gear. Produces oxides of Sulfur and Nitrogen on combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

In case of spillage, dampen powders with water. Sweep up any powders using natural fibre brushes and non ferrous dust pans not steel, or any material that could produce sparks or present a risk of static discharge.

IN ALL CASES OF SPILLAGE CONTACT HOWARD & SONS PYROTECHNICS ON
0263 557 301 or 0418 218 432

SECTION 7: HANDLING AND STORAGE

In their fabricated and packaged state pyrotechnics are stable and present little risk. However, extremes of heat or weather must be avoided as well as impact. When handling finished product only carry an amount that you can safely hold without the risk of dropping any pyrotechnic item.

Never store pyrotechnic items in high traffic areas or locations where impact risks are present.

SECTION 8: EXPOSURE CONTROLS

NOT RELEVANT IN PACKAGED FORM

BIOLOGICAL LIMIT VALUES

No biological limit has been allocated for this product.

EXPOSURE STANDARDS

No reference to pyrotechnic material as a airborne contaminant can be found in the National Occupational Health and Safety Commission, *Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC:1003(1995)].

ENGINEERING CONTROLS

IN USE

THIS PRODUCT IS ONLY FOR USE IN CONNECTION WITH THE THERMITE WELDING PROCESS REFER TO OPERATIONAL INSTRUCTIONS FOR THE USE AND INITIATION OF THERMITE. ENSURE THAT BEST PRACTICE O.H&S POLICIES REGARDING THIS PRODUCT ARE FOLLOWED

P.P.E

Wear Boots, overalls, gloves all Non-synthetic fire resistant materials eyewear and protective head gear

SECTION: 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Stars 10mm dia x 10mm in length having a metallic appearance		
BOILING POINT / MELTING POINT: Not applicable	FLASH POINT (C):	Not applicable
VAPOUR PRESSURE: Not applicable	FLAMMABILITY LIMITS (%):	Not applicable
SPECIFIC GRAVITY: Not applicable	SOLUBILITY IN WATER (g/L):	< 65%
IGNITION TEMPERATURE: >600 C		

SECTION 10: STABILITY AND REACTIVITY

This product is stable and non reactive
Avoid transporting with strong acids or alkalis keep dry keep away from flame or excessive heat
Hazardous Polymerization will not occur.
Hazardous Decomposition Products: Oxides of sulfur & nitrogen gasses produced in use

SECTION 11: TOXICOLOGICAL INFORMATION

SMOKE FROM INITIATING PRODUCT

R36/37 Smoke produced may be irritating to the eyes and respiratory system
ADVICE TO DOCTOR: Treat symptomatically

AS A COMPOUND OF DRY POWDERS

Oral LD₅₀ (Rats):>5050 mg/kg body weight
Dermal LD₅₀ (Rats):>2020 mg/kg body weight
Inhalation @ 90% LC₅₀ (Rats):>5.49 mg/L air concentration
Skin Effects (Rabbits): Slightly irritating
Eye Effects (Rabbits): Minimal irritation in non-washed eyes

CARCINOGENICITY, TERATOGENICITY, MUTAGENICITY:
This product does not contain any ingredient designated by IARC, or NOHSC as a probable human carcinogen.

SUMMARY AS PER NOHSC GUIDANCES NOTES: SEE SECTION 2

SECTION 12: ECOLOGICAL INFORMATION

There have been no reports in the literature of detrimental ecological effects from exposure to the substances composite in this product.

SECTION: 13 DISPOSAL CONSIDERATIONS

Disposal of unfired product should only be carried out by a licensed pyrotechnic waste disposal contractor
Contact Howard & Sons Pyrotechnics on 0263 557 301.

Provided that the products case can be determined as free from explosives by a licensed pyrotechnician,
the spent cases can go to licensed landfill.

SECTION: 14 TRANSPORT INFORMATION

**Class 1.4S. UN Number 0454. Transport as per Section 8 of the Australian Dangerous Goods code.
Packaging group: II Hazchem code: E**

Keep Dry, cool and avoid shock heat and transporting with incompatible substances such as strong
Acids, alkalis or oxidising agents.

Pyrotechnics must travel within their original UN approved packaging.

INTERNATIONAL FREIGHT

Shipment by water- This product has been tested under the series 6 classification as per the UN manual
of tests and criteria rev edition 4 and as such complies with the IMDG code and Marine Orders Part 41 for
the transport of dangerous goods.

Shipment by air- This product complies with the criteria stipulated by the International Civil Aviation
Organisation rules (ICAO) and the International Air Transport association (IATA) regulations.

In addition this product complies with the Queensland fireworks safety code edition 1/.2004 and its
attendant testing regimen.

SECTION: 15 REGULATORY INFORMATION

**It is a regulation in every state or territory in Australia that a license is required to purchase, keep
and use this product.**

**It is a requirement in every state and territory in Australia that notification be made to the Police,
Fire services, Safety authorities and in some cases Air services, of any intended display using
display pyrotechnics. Consult Australian Standard 2187.1/2/3/4 for further information.**

SECTION: 16 OTHER INFORMATION

This Materials Safety and Technical Data Sheet was prepared referencing.

- The Australian IMDG code and Marine Orders Part 41
- The Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].
- The Dangerous Goods Non hazardous substance as per [NOHSC 1008:2004]
- The International Civil Aviation Organisation rules (ICAO)
- UN manual of tests and criteria rev edition 4
- Queensland fireworks safety code edition 1/.2004
- The ACT Dangerous Substances (Explosives) Regulation 2004

CONTACT POINT:

Howard & Sons Pyrotechnics (Manufacturing) Pty. Ltd.
Technical Manager **CHRISTIAN HOWARD**
Telephone Number: **WH: (02) 6355 7301 AH: 0418 218 432**

Although this information is presented in good faith and compiled from various sources, believed to be accurate, Howard & Sons Pyrotechnics (Manufacturing) Pty. Ltd. make no representations or warrant as to the completeness or accuracy there of.

As the products performance and suitability depends on various factors, the purchasers of our products should determine for themselves whether the product is suitable for their particular use.