



Trail Boss®
MATERIAL SAFETY DATA SHEET
January 2011

The following smokeless powder
is distributed by
IMR Legendary Powders

Trail Boss®

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SYNONYMS

"Pistol Propellant AS 25 BP", "Trail Boss"

PROPER SHIPPING NAME

POWDER, SMOKELESS

PRODUCT USE

» Used according to manufacturer's directions.
Porous single-base smokeless powder or propellant for pistol ammunition.

SUPPLIER

Company: Thales, Australia, Mulwala
Address:
Private Bag 1
Mulwala
NSW, 2647
AUS

Company: Thales, Australia, Mulwala Ltd
Address:
Bayly Street
Mulwala
NSW, 2647
AUS
Telephone: +61 2 5742 2200
Emergency Tel: +61 2 5742 2200
Fax: +61 2 5744 1873

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

Risk Codes	Risk Phrases
R01	» Explosive when dry.
R03	» Extreme risk of explosion by shock fire friction or other sources of ignition.
R51/53	» Toxic to aquatic organisms may cause long- term adverse effects in the aquatic environment.
R61(2)	» May cause harm to the unborn child.
R62(3)	» Possible risk of impaired fertility.

SAFETY

Safety Codes	Safety Phrases
S34	» Avoid shock and friction.
S01	» Keep locked up.
S38	» In case of insufficient ventilation wear suitable respiratory equipment.
S51	» Use only in well ventilated areas.
S53	» Avoid exposure - obtain special instructions before use.
S401	» To clean the floor and all objects contaminated by this material use water and detergent.
S35	» This material and its container must be disposed of in a safe way.
S13	» Keep away from food drink and animal feeding stuffs.
S57	» Use appropriate container to avoid environmental contamination.
S61	» Avoid release to the environment. Refer to special instructions/Safety data sheets.
S60	» This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
nitrocellulose	9004-70-0	85-95
dibutyl phthalate	84-74-2	0-10
graphite	7782-42-5	0-1

Section 4 - FIRST AID MEASURES

SWALLOWED

- » - For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

EYE

- » If this product comes in contact with the eyes:
- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

SKIN

- » If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- » - If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN

- » Symptoms of vasodilation and reflex tachycardia may present following organic nitrate overdose; most organic nitrates are extensively metabolised by hydrolysis to inorganic nitrites. Organic nitrates and nitrites are readily absorbed through the skin, lungs, mucosa and gastro-intestinal tract. Delayed pulmonary oedema may result following exposure to nitrous oxides formed on thermal decomposition of the propellant.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- » DANGER: Deliver media remotely.
- For minor fires: Flooding quantities only.
- For large fires: Do not attempt to extinguish.

FIRE FIGHTING

- » WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!
- Evacuate all personnel and move upwind.
- Prevent re-entry.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be explosively reactive, detonate and release much heat.

FIRE/EXPLOSION HAZARD

- » WARNING: HIGH EXPLOSION HAZARD!
- Combustible.
- Will burn with rapidly increasing intensity of fire.
- Dry material is extremely sensitive to shock, friction, heat and sparks.
- Avoid metal to metal contact.

FIRE INCOMPATIBILITY

- » - Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.
- Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.

HAZCHEM: None

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- » Clean up all spills immediately.
- Remove all ignition sources.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety glasses.
- Use spark-free tools when handling.
- Place spilled material in clean, dry, sealable, labelled container.
- Flush spill area with water.

MAJOR SPILLS

- » Clear area of personnel.
- Restrict access to area.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains and water course.
- Consider evacuation (or protect in place).
- No smoking or naked lights within area.
- Shut off all possible sources of ignition and increase ventilation.
- Stop leak if safe to do so.
- Use only spark-free shovels and explosion proof equipment.
- If contamination of drains or waterways occurs, advise emergency services.
- Collect, using a spark-free shovel, and seal in labelled drums for disposal.
- Wash spill area with large quantities of water.
- Protective clothing and equipment should be washed down after use and laundered separately from non-contaminated materials.
- In the case of transport accident notify the State Police, State Explosives Inspector and the Manufacturer, ADI Mulwala Facility.
- Collect recoverable packages and segregate from loose, spilled material

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- » Use good occupational work practice. Observe manufacturer's storing and handling recommendations.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Avoid smoking, naked lights, heat or ignition sources.
- Must not be struck by metal implements.
- Avoid shock and friction.
- Avoid thermal shock.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling. Work clothes should be laundered separately.
- Avoid prolonged storage (longer than shelf-life) storage temperatures above 38 decC (100F)
- Store in tightly closed containers in a properly vented storage area away from heat, sparks, open flame, strong oxidisers, radiation and other initiators.
- Prevent contamination by foreign materials.
- Prevent moisture contact.

SUITABLE CONTAINER

- » Explosives Code Packing Instruction P114(b) or 114(b)
- General packaging provisions of 4.1.1, 4.1.3 and special provision 4.1.5 are to be met.
- For UN 0160, 0161 - If outer packaging is drum then inner packaging is not required.
- For UN 0160, 0161 - If outer packaging is 1A2 or 1B2 metal drums then drum construction shall be that risk of explosion, by reason of increase by internal pressure from internal or external causes, is prevented.
- For UN 0077, 0132, 0234, 0235, 0236, packagings are to be lead free, otherwise:
 - Inner Packagings:
 - Bags: Paper Kraft, Plastics, Textiles - sift proof, Woven Plastic - sift proof
 - Receptacles: Fibreboard, Metal, Paper, Plastic, Woven Plastic - sift proof
 - Intermediate Packagings:
 - Not necessary
 - Outer Packagings:
 - Boxes: Natural Wood (4C1), Natural Wood -sift proof (4C2), Plywood (4D), Reconstituted Wood (4F), Fibreboard (4G)
 - Drums: Steel, Removable Head (1A2), Aluminium, removable head (1B2), Plywood (1D), Fibre (1G), Plastic, removable head (1H2).
- Check containers are clearly labelled.
- Packaging as recommended by manufacturer.

continued...

STORAGE INCOMPATIBILITY

- » - Avoid strong acids, bases
 - Avoid reaction with oxidising agents.
 - Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.
 - Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.
- Do NOT allow to dry.

STORAGE REQUIREMENTS

- » - Store in original containers.
 - Keep containers securely sealed.
 - Store in a cool, dry area protected from environmental extremes.
 - Store away from incompatible materials and foodstuff containers.
- Store in original containers.
- Keep dry.
- No smoking, naked lights, heat or ignition sources.
Keep storage area free of debris, waste and combustibles.
Protect containers against physical damage.
- Check regularly for spills and leaks.
- Store cases in a well ventilated magazine licensed for IMCO Class 1.3C Explosives.
- NOTE: If deterioration of the explosive occurs or large quantities of explosive need to be destroyed notify the Manager, ADI Mulwala Facility or State Explosives Department.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³
Australia Exposure Standards	nitrocellulose (Inspirable dust (not otherwise classified))	10
Australia Exposure Standards	dibutyl phthalate (Dibutyl phthalate)	5
Australia Exposure Standards	graphite (Graphite (all forms except fibres) (respirable dust))(g)(natural & synthetic)	3

PERSONAL PROTECTION

RESPIRATOR

Type A-P Filter of sufficient capacity

EYE

- » - Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

- » Wear protective gloves, eg. PVC.
 - Protective footwear.
- Manufacture may require.

OTHER

- » Overalls.
 - Eyewash unit.
- Ensure ready access to a burns first aid kit.
- Impervious apron.
- Ensure there is ready access to a safety shower.
- Barrier cream.
- Manufacture may require:
Non-static clean room clothing

ENGINEERING CONTROLS

- » Use in a well-ventilated area.
- General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Small grey, green-grey disc shaped granules; does not mix with water
WARNING: SEVERE EXPLOSION HAZARD. Detonation may occur from heavy impact or excessive heating. Avoid all contact with other chemicals.

PHYSICAL PROPERTIES

Solid.
Does not mix with water.
Floats on water.

Molecular Weight: Not applicable.
Melting Range (°C): > 170 decomposes
Solubility in water (g/L): Immiscible
pH (1% solution): Not applicable.
Volatile Component (%vol): Negligible
Relative Vapour Density (air=1): Not applicable
Lower Explosive Limit (%): Not applicable.
Autoignition Temp (°C): 170
State: Divided solid

Boiling Range (°C): Not available.
Specific Gravity (water=1): Approx. 0.6
pH (as supplied): Not applicable
Vapour Pressure (kPa): Negligible
Evaporation Rate: Non Volatile
Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not applicable.
Decomposition Temp (°C): Explosive.
Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

» - Product is considered stable under normal handling conditions.
- Stable under normal storage conditions.
- Hazardous polymerization will not occur.
For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

» Not applicable.

CHRONIC HEALTH EFFECTS

» May cause harm to the unborn child.
» Possible risk of impaired fertility.

TOXICITY AND IRRITATION

» Not available. Refer to individual constituents.

NITROCELLULOSE:

» No significant acute toxicological data identified in literature search.

DIBUTYL PHTHALATE:

» unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (human) TDLo: 140 mg/kg
Oral (rat) LD50: 8000 mg/kg
Inhalation (rat) LD50: 4250 mg/m³
Oral (rat) LOAEL: 66 mg/kg/day

IRRITATION

Nil Reported

» The material may produce peroxisome proliferation. Peroxisomes are single, membrane limited, cytoplasmic organelles that are found in the cells of animals, plants, fungi and protozoa.

GRAPHITE:

» No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Section 13 - DISPOSAL CONSIDERATIONS

- » - Recycle wherever possible. Special hazards may exist - specialist advice may be required.
- Consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.

Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified. Explosives must not be thrown away, buried, discarded or placed with garbage. This material may be disposed of by burning but the operation must be performed under the control of a person competent in the destruction of explosives.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: EXPLOSIVE
HAZCHEM: None (ADG7)

Land Transport UNDG:

Class or division:	1.3C	Subsidiary risk:	None
UN No.:	0161	UN packing group:	None
Shipping Name:	POWDER, SMOKELESS†		

Air Transport IATA:

ICAO/IATA Class:	1.3C	ICAO/IATA Subrisk:	None
UN/ID Number:	0161	Packing Group:	None
Special provisions:	None		
Cargo Only			
Packing Instructions:	Forbidden	Maximum Qty/Pack:	Forbidden
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	Forbidden	Maximum Qty/Pack:	Forbidden
Passenger and Cargo		Passenger and Cargo	
Limited Quantity		Limited Quantity	
Packing Instructions:	-	Maximum Qty/Pack:	-
Shipping Name:	POWDER, SMOKELESS †		

Maritime Transport IMDG:

IMDG Class:	1.3C	IMDG Subrisk:	None
UN Number:	0161	Packing Group:	None
EMS Number:	F- B, S- Y	Special provisions:	None
Limited Quantities:	None		
Shipping Name:	POWDER, SMOKELESS		

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

Mulwala Propellant AS 25 BP (CAS: None):
No regulations applicable

Regulations for ingredients

nitrocellulose (CAS: 9004-70-0) is found on the following regulatory lists,
Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported
Australia Exposure Standards
Australia High Volume Industrial Chemical List (HWICL)
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

dibutyl phthalate (CAS: 84-74-2) is found on the following regulatory lists;

Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)

Australia - Australian Capital Territory Environment Protection Regulation Ecosystem maintenance - Organic chemicals - Non-pesticide anthropogenic organics

Australia Exposure Standards
Australia Hazardous Substances
Australia Inventory of Chemical Substances (AICS)
Australia National Pollutant Inventory
GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
IMO IBC Code Chapter 17: Summary of minimum requirements

continued...

IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Chemical Secretariat (ChemSec) REACH SIN* List (*Substitute It Now!) 1.0
OECD Representative List of High Production Volume (HPV) Chemicals
OSPAR List of Chemicals for Priority Action
OSPAR List of Substances of Possible Concern

graphite (CAS: 7782-42-5) is found on the following regulatory lists;

Australia Exposure Standards
Australia Hazardous Substances
Australia High Volume Industrial Chemical List (HVICL)
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 2
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 6

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
dibutyl phthalate	84-74-2	N; R51/53

» Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

» The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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This is the end of the MSDS.