



TENAGA KIMIA SENDIRIAN BERHAD (26191 A)

Administration & Sales Office

Address: No. 8, Jalan SS 22/21, Damansara Jaya, 47400 Petaling Jaya, Selangor
Tel: + 60 – 3 – 7729 7464
Fax: + 60 – 3 – 7729 8383
E-mail: sales@tenagakimia.com

Factory

Address: Lot 5065, 48100 Batu Arang, Selangor, Malaysia
Tel: + 60 – 3 – 6035 2801
Fax: + 60 – 3 – 6035 2802
E-mail: plant@tenagakimia.com

Website: <http://www.tenagakimia.com>

MATERIAL SAFETY DATA SHEET

Date of issue: January 2008

Note:

This product is not classified as hazardous.

This product is an explosive product classified as Class 1.1D Dangerous Good.

1.0 PRODUCT AND COMPANY IDENTIFICATION

Product name	Booster 250g Booster 400g Booster 450g
General name	Cast Boosters
General description	Cast Boosters
Product use	Cast boosters are designed for the initiation of blasting agents and booster sensitive packaged explosive.
Company Name	Tenaga Kimia Sdn. Bhd.
Company Address	No. 8, Jalan SS 22/21, Damansara Jaya, 47400 Petaling Jaya, Selangor, Malaysia.
Emergency Tel	+60 3 6035 2801
Telephone Number	+60 3 7729 7464
Fax	+60 3 7729 8383

2.0 PRODUCT COMPOSITION / INFORMATION ON INGREDIENTS

Ingred Name: 2,4,6-TRINITROTOLUENE (TNT)
CAS: 118-96-7
RTECS #: XU0175000
Other REC Limits: TRANS PEL:1.5MG/M3,S
OSHA PEL: S, 1.5 MG/M3
ACGIH TLV: S, 0.5 MG/M3; 9293

Ingred Name: PENTAERYTHRITOL, TETRANITRATE (PETN). VP: 0.001 @ 97C.
MP: 141.3C. BP: >202C. SPEC GRAV: 1.76. APPEAR: COLORLESS
CRYSTAL.
CAS: 78-11-5
RTECS #: RZ2620000

3.0 HAZARDS IDENTIFICATION

LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.
Routes of Entry: Inhalation: NO Skin: YES Ingestion: NO
Reports of Carcinogenicity: NTP: NO IARC: NO OSHA: NO
Health Hazards Acute and Chronic: TRINITROTOLUENE: IRRITANT.
CYCLOTRIMETHYLENE TRINITRAMINE: TOXIC.
Explanation of Carcinogenicity: NOT RELEVANT
Effects of Overexposure: NONE SPECIFIED BY MANUFACTURER.
Medical Cond Aggravated by Exposure: NONE SPECIFIED BY MANUFACTURER.

4.0 FIRST AID MEASURES

First Aid: INHAL: REMOVE TO FRESH AIR. SUPPORT BREATHING (GIVE
OXYGEN/ARTIFICIAL RESPIRATION), CALL MD.
INGEST: CALL MD IMMEDIATELY.

5.0 FIRE FIGHTING MEASURES

Extinguishing Media: USE MEDIA SUITABLE FOR SURROUNDING
FIRE.
Fire Fighting Procedures: DO NOT ATTEMPT TO FIGHT FIRES INVOLVING
EXPLOSIVES. IMMEDIATELY EVACUATE AREA.
Unusual Fire/Explosion Hazard: AVOID TOXIC FUMES FROM FIRE.

6.0 ACCIDENTAL RELEASE MEASURES

Spill Release Procedures: NONE SPECIFIED BY MANUFACTURER.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

7.0 STORAGE AND HANDLING

Handling and Storage Precautions: FOLLOW OSHA STANDARDS FOR STORE/USE
(29 CFR 1910.109). SEE "DO'S/DON'TS-
INSTRUCTIONS & WARNINGS" FOUND
IN EVERY SHIPPING CASE.
Other Precautions: AVOID TOXIC FUMES FROM BLASTING. WEAR
NORMAL PROTECTIVE EQUIPMENT. SEE

8.0 EXPOSURE CONTROLS & PERSONAL PROTECTION

Respiratory Protection: USE NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN.
Ventilation: NONE SPECIFIED BY MANUFACTURER.
Protective Gloves: NONE SPECIFIED BY MANUFACTURER.
Eye Protection: CHEMICAL WORKERS GOGGLES.
Other Protective Equipment: NONE SPECIFIED BY MANUFACTURER.
Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.

Supplemental Safety and Health
NONE SPECIFIED BY MANUFACTURER.

9.0 PHYSICAL AND CHEMICAL PROPERTIES

HCC: E2
Boiling Pt: B.P. Text: SEE INGREDIENTS
Melt/Freeze Pt: M.P/F.P Text: SEE INGREDIENTS
Vapor Pres: SEE INGREDIENTS
Spec Gravity: SEE INGREDIENTS
Appearance and Odor: SEE INGREDIENTS.

10.0 STABILITY AND REACTIVITY DATA

NONE SPECIFIED BY MANUFACTURER.

Stability Condition to Avoid: NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products: NONE SPECIFIED BY MANUFACTURER.

11.0 TOXICOLOGY INFORMATION

Eyes: Particulates in the eye may cause irritation, redness, and tearing. Prolonged or repeated contact may cause cataracts, optic neuritis, blurred vision or amblyopia.

Skin: Prolonged contact may cause irritation, severe eczema and sensitization dermatitis. TNT may be absorbed through the skin, which may be indicated by orange staining on exposed skin. See systemic effects below.

Ingestion: Harmful if swallowed. See systemic effects below.

Inhalation: Inhalation of dusts may cause irritation, sneezing or coughing. See systemic effects below.

Systemic or Other Effects: TNT is an irritant, neurotoxin, hepatotoxin, nephrotoxin and bone marrow depressant. Although exposure is unlikely, acute or chronic exposure may cause sensitization dermatitis, headache, dizziness, jaundice, lethargy, or problems with the liver or blood such as toxic nephritis, aplastic anemia, hemolytic anemia or methemoglobin formation. PETN is a known coronary vasodilator, and ingestion or inhalation may result in a lowering of blood pressure, headache or faintness, and a decreased tolerance for grain alcohol. Repeated over-exposure may result in chest pains in the absence of exposure.

Toxic fumes nitrogen oxides and carbon monoxide can be released on detonation and fire.

Nitrogen oxides vapour is reddish brown with acrid suffocating odour. It is poisonous, oxidising and corrosive. It may cause severe eye, skin, and mucous membrane irritation or corrosive burns. Inhalation may cause severe irritation, chemical pneumonitis and pulmonary edema. Prompt medical attention is mandatory in all cases of over exposure.

Carbon monoxide is an odourless, colourless, highly flammable and poisonous gas. Carbon monoxide acts as a chemical asphyxiant binding to the blood haemoglobin, greatly reducing the red blood cells' ability to transport oxygen to body tissues. Effects may include headaches, dizziness, convulsions, loss of consciousness and death.

12.0 ECOLOGICAL INFORMATION

Prevent contamination of waterways. Poisonous to aquatic organisms.

13.0 DISPOSAL CONSIDERATION

Waste Disposal Methods: DISPOSAL OF DAMAGED OR DETERIORATED EXPLOSIVES MUST BE CARRIED OUT I/A/W ALL FEDERAL, AND STATE REGULATIONS.

14.0 TRANSPORT INFORMATION

Classified as Class 1 Dangerous Goods. Transport in accordance with the local, state and federal laws and regulations.

Shipping name	Boosters, without detonator
General description	Cast Boosters
UN Classification	1.1D
UN Number	0042
Hazchem code	E
Poisons schedule	Not scheduled

15.0 REGULATORY INFORMATION

Classification	Based on available information, not classified as hazardous. Under Canadian Classification, this product is classified in accordance with the hazard criteria of Controlled Products Regulations. This MSDS contains all the information required by the Controlled Products Regulations.
Risk Phrase	Risk of explosion by shock, fire or other sources of ignition
Safety Phrase	Keep and store away from combustible material. Prevent contact with skin and eyes. Rinse immediately with water and seek medical advice in case of contact with eyes. Wear suitable gloves and eye & face protection.

Poisons Schedule	Not scheduled.
SARA Title III Information	N/P
Federal Regulatory Information	N/P
State Regulatory Information	N/P

16.0 OTHER INFORMATION

DISCLAIMER

The information given should be dealt with by competent and experienced personnel in accordance with all applicable local, state, and federal regulations.

The information provided has been compiled as current and accurate as possible, according to universally known knowledge and researches. As the conditions under which the products are used are not within TKSB's control, TKSB will not be responsible for any liabilities arising from the use of the products and the information in this data sheet.

TKSB makes no express or implied warranties, other than those governed by the law of Malaysia.