

Material Safety Data Sheet

Identity (As Used on Label and List)

Estes Model Rocket Engines

Engines containing 30 grams or less propellant (Estes ¼ A through D) classified as:

Model Rocket Motor, NA 0323, Div. 1.4S, PG II

Shipped via the United States Postal Service via Surface Mail Only as:

Toy Propellant Devices

Shipped Internationally per Competent Authority USG as:

Articles pyrotechnic, UN 0432, Div. 1.4S, PG II

Engines containing more than 30 grams but no more than 62.5 grams of propellant (Estes E and larger) classified as:

Model Rocket Motor, NA 0276, Div. 1.4C, PG II

Nonmailable via the United States Postal Service

Shipped Internationally per Competent Authority USG as:

Cartridges, power devices, UN 0276, Div. 1.4C, PG II

All Estes Model Rocket Engines May Be Shipped Domestically per DOT – SP 7887(Previously DOT – E 7887) as:

Flammable solid, organic, n.o.s., (Model rocket kits containing motors with or without un-installed igniters), UN 1325, Div. 4.1, PG II

Section I

Manufacturer's Name and Address

Estes-Cox Corp. d/b/a Estes Industries

P.O. Box 227, 1295 H Street

Penrose, CO 81240

Emergency Telephone Number

CHEM-TEL 800-255-3924

Telephone Number for Information

ESTES 719-372-6565

Date Prepared

January 16, 2009

Section II - Hazardous Ingredients/Identity Information

Propellant and Delay consists of:

Potassium Nitrate (Saltpeter)	CAS 7757-79-1	70-75%
Sulfur	CAS 7704-34-9	10-15%
Charcoal	CAS 16291-96-6	10-15%

Section III - Physical/Chemical Characteristics

Boiling Point N/A Specific Gravity N/A

Vapor Pressure N/A Melting Point N/A

Vapor Density N/A Evaporation Rate N/A

Solubility in Water Soluble

Appearance and Odor: Kraft paper cylinder with light gray clay at ends, one end has a small orifice with black material inside. Sulfur odor.

Section IV – Fire and Explosion Hazard Data

Flash Point: Auto-ignition temperature 540° F (282° C)

Flammable Limits – N/A LEL –N/A UEL-N/A

Extinguishing Media – Water only – other extinguishers ineffective as engines produce their own oxygen.

Special Fire Fighting Procedures – Flood with water to prevent fire spread. If engines become involved in fire withdraw from area.

Unusual Fire and Explosion Hazard – When ignited model rocket engines may become propulsive but do not explode.

Material Safety Data Sheet-Continued

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Section V – Reactivity Data

Stability: Stable - Avoid sparks, open flame and high temperatures

Incompatibility – N/A

Combustion Byproducts – Include carbon monoxide, hydrogen, sulfur, potassium, potassium sulfide and potassium hydroxide

Hazardous Polymerization – Will not occur

Section VI – Health Hazard Data

Routes of Entry: Inhalation-No Skin-No Ingestion-Possible

Health Hazards: None

Carcinogenicity: NTP-N/A IARC Monograph's-N/A OSHA Regulated-N/A

Signs and Symptoms of Exposure - None Medical Conditions Aggravated by Exposure - None

Emergency and First Aid Procedures:

For minor burns, apply first aid. For serious burns, see a physician. If engine or propellant is swallowed consult a physician.

Section VII – Precautions for Safe Handling

Steps to Be Taken in Case material is Released or Spilled

Model rocket engines are devices in a solid state. Simply pick up and place in containers approved for storage and transport. Wipe up any dust with wet cloths.

Waste Disposal Method

Small Quantity – Soak in water until engine disintegrates. Then dispose of remnants in an ordinary manner.

Large Quantity – In accordance with local, state and federal regulations

Precautions to Be Taken in Handling and Storing

Avoid impact and ignition sources. To assure proper performance, store in a cool, dry area at 32° - 140° F (0°-60° C). Store away from living quarters.

Other Precautions

Do not alter, dismantle or unwrap model rocket engines or their ingredients in any manner. Always follow National Association of Rocketry's Model Rocketry Safety Code and all applicable laws and regulations.

Section VIII – Control Measures

Respiratory protection – None

Ventilation – Use outdoors only.

Protective Gloves - Not required

Eye protection – Not required

Other Protective Clothing or Equipment - Not required

Work/Hygienic Practices - Wash hands after handling engines.