

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.

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U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072



IDENTITY (As Used on Label and List)
MODEL ROCKET ENGINE

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

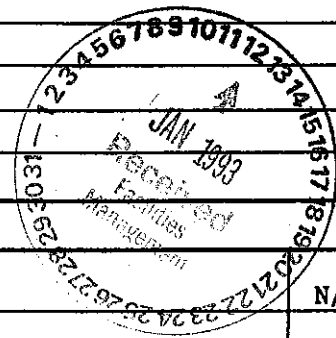
Manufacturer's Name ESTES INDUSTRIES	Emergency Telephone Number 1-719-372-6565 1-800-255-3924
Address (Number, Street, City, State, and ZIP Code) 1295 H STREET PENROSE CO 81240	Telephone Number for Information 1-719-372-6565
	Date Prepared 8-30-89
	Signature of Preparer (optional)

Section II -- Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
POTASSIUM NITRATE			71.79%	
SULPHUR			13.45%	
CHARCOAL			13.81%	
DEXTRIN			0.95%	

NOTE: AVERAGE ENGINE INGREDIENTS

SB-7260	SB15212	SB16339
SB-71917	SA2657	SA2662
SB-18892	SA2658	SB15810
SB-18893	SB16337	SA2664
SB11148	SB11149	SB14938
SA-2693	SB16338	SB12190
SB1862	SA2661	SA2667



Section III -- Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H ₂ O = 1)	N/A
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water			

Appearance and Odor

OUTER CASING KRAFT PAPER, INSIDE CHEMICAL BLACK - SULPHUR ORDER

Section IV -- Fire and Explosion Hazard Data

Flash Point (Method Used) AUTOIGNITION IS 540° F	Flammable Limits	LEL	UEL
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Extinguishing Media
WATER

Special Fire Fighting Procedures

SOAK SURROUNDING AREA WITH WATER TO PREVENT FIRE SPREAD. FOAM AND POWDER EXTINGUISHER

INEFFECTIVE AS ENGINE PRODUCES OWN OXYGEN.

Unusual Fire and Explosion Hazards

MODEL ROCKET ENGINES MAY FLY LIKE ROCKET FOR SHORT DISTANCES WHEN IGNITED, BUT DO NOT

EXPLODE.

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Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts
SOME COMBUSTION PRODUCTS MAY BE CONSIDERED TOXIC.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
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Health Hazards (Acute and Chronic)

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
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Signs and Symptoms of Exposure

Medical Conditions Generally Aggravated by Exposure

Emergency and First Aid Procedures
FOR MINOR BURNS USE FIRST AID OINTMENT. FOR SEVERE BURNS, CONSULT PHYSICIAN. IF PROPELLANT IS SWALLOWED, INDUCE VOMITING AND CONSULT A PHYSICIAN.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled
SOAK AREA WITH WATER, CLEAN-UP WITH WATER AND WET CLOTHS OR OTHER SUITABLE MATERIAL.

Waste Disposal Method
IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

Precautions to Be Taken in Handling and Storing
SOLID FLAMMABLE, STORE IN COOL DRY AREA, KEEP AWAY FROM HIGH TEMPERATURE AREAS.

Other Precautions
USE UNDER WELL VENTILATED CONDITIONS. ALWAYS FOLLOW HIA - NAR SAFETY CODES. DO NOT ALTER, DISMANTLE, OR UNWRAP MODEL ROCKET ENGINES OR THEIR INGREDIENTS IN ANY MANNER.

Section VIII — Control Measures

Respiratory Protection (Specify Type)

Ventilation	Local Exhaust	Special
	Mechanical (General)	Other

Protective Gloves NOT REQUIRED	Eye Protection RECOMMENDED
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Other Protective Clothing or Equipment

Work/Hygienic Practices