MATERIAL SAFETY DATA SHEET

EASTMAN CHEMICAL PRODUCTS, INC.
EASTMAN KODAK COMPANY
Kingsport, Tennessee 37662

For Health Hazard Information, Call: (615) 229-6094

For Other Information, Call Your Eastman Representative

Eastman Operator: (615) 229-2000 Date of Preparation 11-10-88

SECTION I. IDENTIFICATION

-- Name:

"TENITE" Butyrate Formulas: 460, 461, 462, 465, 505, 513, and 561

-- Formula: Mixture

SECTION II. PRODUCT AND COMPONENT HAZARD DATA

A. COMPONENT:	Approx Weight %	CAS Reg No	Eastman Kodak No
Cellulose acetate butyrate	>80	9004-36-8	090590
Dibutyl azelate	<18	2917-73-9	909651
Resorcinol monobenzoate*	<2	136-36-7	906511

See Section VI-A for information on exposure limits.
*Hazardous chemical as defined by OSHA, 29 CFR 1910.1200.

B. PRECAUTIONARY LABEL STATEMENTS:

CAUTION! POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES.

Minimize dust formation and accumulation.

FIRST AID: If burned by contact with molten material, cool as quickly as possible with water and see a physician for treatment of burn.

Note to Physicians. Burns should be treated as thermal burns. Product is a polymer of low toxicity; therefore, there is no need to remove it from the skin because of concern about toxicity. The polymer will come off as healing occurs.

FOR MANUFACTURING USE ONLY

SECTION III. PHYSICAL DATA (1)

-- Appearance and Odor: Pellets with low odor.
-- Softening Point: >125°C (>257°F).
-- Specific Gravity (H_2O = 1): >1.0.
-- Solubility in Water: Negligible.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

-- Flash Point: Not applicable: Nonvolatile, combustible.
-- Extinguishing Agent: Water spray, dry chemical, or CO_2.
-- Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
-- Unusual Fire and Explosion Hazards:This material, like most organic materials in powder form, is capable of creating a dust explosion. Refer to NFPA Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries."

SECTION V. REACTIVITY DATA

-- Stability: Stable.
-- Incompatibility: Oxidizing materials can cause a reaction.
-- Hazardous Decomposition Products: As with any other organic material, combustion will produce carbon dioxide and probably carbon monoxide.
-- Hazardous Polymerization: Will not occur.

SECTION VI. TOXICITY AND HEALTH

A. EXPOSURE LIMITS

-- Threshold Limit Value (TLV): Not established.
-- OSHA Permissible Exposure Limit (PEL): Not established.

B. EXPOSURE EFFECTS

General: Resorcinol monobenzoate, a component in this product at approx 2%, has elicited contact dermatitis in humans after prolonged intimate contact with articles such as eyeglass frames, hearing aids, etc. Therefore, prolonged or repeated contact with this material or articles formed or produced from this material should be avoided. (See Section VI-D.)

Inhalation: Low hazard for usual industrial handling.

Eyes: Low hazard for usual industrial handling.

Skin: Molten material will produce thermal burns.

C. FIRST AID

If burned by contact with molten material, cool as quickly as possible with water and see a physician for treatment of burn.

Note to Physicians. Burns should be treated as thermal burns. Product is a polymer of low toxicity; therefore, there is no need to remove it from the skin because of concern about toxicity. The polymer will come off as healing occurs.

D. TOXICITY DATA

Toxicity data for the components of these material are as follows:

Cellulose Acetate Butyrate

Test	Species	Result (2)	Acute Toxicity Classification (3)
Acute oral LD_{50}	Rat	>6400 mg/kg	Practically nontoxic
Dermal LD_{50}	Guinea pig	>1000 mg/kg	
Skin irritation	Guinea pig	Very slight	
Skin sensitization	Guinea pig	None	

Feeding Study No. 1: Rats fed diets containing 20% of the compound for 7 days consumed approx 16 g/kg/day with a maximum daily intake of 18.5 g/kg/day. The animals showed no ill effect from this massive dosage. (2)

Feeding Study No. 2: Rats were fed diets containing 1.0% and 5.0% of the compound for 99 days. No biologically significant effects were noted in feed intake, weight gain, clinical signs, hematology, gross pathology, or histopathology. (2)

Feeding Study No. 3: Dogs were fed 50 to 150 g/day of the compound for 4 mo without toxic effect. (2)

In rats, intratracheal injection of cellulose acetate butyrate dust suspended in 0.25 mL of water gave no evidence of specific pulmonary reaction as judged by the histological appearance of the lungs at 10 days and 14 days after injection. (2)

Dibutyl azelate

Test	Species	Result (2)
Acute oral LD_{50}	Mouse	>25.6 g/kg
Skin irritation	Guinea pig	Slight
Skin sensitization	Guinea pig	None
Eye irritation	Rabbit	Slight

Resorcinol Monobenzoate

Test	Species	Result (2)	Acute Toxicity Classification (3)
Acute oral LD_{50}	Rat	1600 to 3200 mg/kg	Slightly toxic
Acute oral LD_{50}	Mouse	800 to 1600 mg/kg	
Dermal LD_{50}	Guinea pig	>8000 mg/kg	
Skin irritation	Guinea pig	Moderate	
Skin sensitization	Guinea pig	Slight	

Persons wearing eyeglass frames, hearing aids, etc. made of cellulose ester plastics stabilized with resorcinol monobenzoate have developed allergic contact dermatitis. (4)

SECTION VII. VENTILATION AND PERSONAL PROTECTION

A. VENTILATION

Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation or respiratory protection may be needed in special circumstances such as mechanical generation of dusts, overheating, drying, etc.

B. RESPIRATORY PROTECTION

If respiratory protection is needed, an appropriate NIOSH-approved respirator for fume should be worn. If respirators are used, a program should be established to assure compliance with OSHA Standard 29 CFR 1910.134.

C. SKIN AND EYE PROTECTION

Safety glasses with side shields (or goggles) are recommended for any type of industrial chemical handling. Gloves should be worn to protect against thermal burns. A safety shower and washing facilities should be available. Good industrial hygiene practice should be followed which includes minimizing skin contact.

SECTION VIII. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Keep from contact with oxidizing materials. Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION IX. SPILL, LEAK, AND DISPOSAL PRACTICES

Steps to be Taken in Case Material is Released or Spilled: Collect and contain for salvage or disposal.

Waste Disposal Method: Incineration or landfill. Observe all federal, state, and local laws concerning health and environment.

SECTION X. ENVIRONMENTAL EFFECTS DATA

These materials have not been tested for environmental effects.

SECTION XI. TRANSPORTATION

DOT Hazard Classification: Not regulated by DOT.

SECTION XII. REFERENCES

1. File data, Material Safety Program, Eastman Chemicals Division, Eastman Kodak Company, Kingsport, Tennessee.

2. Unpublished data, Health and Environment Laboratories, Eastman Kodak Company, Rochester, New York.

3. AM IND HYG ASSOC Q 10, 93-96 (1949).

4. ARCH DERMATOL 105, 880-885 (1972).

SECTION XIII. HAZARD RATINGS

	Health	Flammability	Reactivity
HMIS* Rating:	0	1	0
NFPA** Rating:	0	1	0

NOTICE: These ratings involve data and interpretations that may vary from company to company and are intended only for rapid, general identification of the magnitude of the specific hazard. TO DEAL ADEQUATELY WITH THE SAFE HANDLING OF THIS MATERIAL, ALL THE INFORMATION CONTAINED IN THIS MSDS MUST BE CONSIDERED. The customer is responsible for determining the proper personal protective equipment needed for its particular use of this material.

*Hazardous Materials Identification System's [HMIS] Revised RAW MATERIALS RATING MANUAL, National Paint & Coatings Association, Fall 1984.

**NFPA 704 Standard System for the Identification of the Fire Hazards of Materials, National Fire Protection Association, 1985.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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