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SAFETY DATA SHEET

Section 1- IDENTIFICATION

COMPOSITION		PRODUCT NAME
Y		**Yttrium**
SUPPLIER: **Plasmaterials, Inc.** **2268 Research Drive** **Livermore, CA 94550** **Ph: 925-447-4030**	RECOMMENDED USE: **Laboratory Chemicals** **Scientific Research**	EMERGENCY TELEPHONE NUMBERS **US: 001-800-424-9300** **Europe: 001-703-527-3887**

Section 2- HAZARD(S) IDENTIFICATION

HEALTH HAZARDS: **Physical Hazards:** Flammable Solids Category 2 **Health Hazards:** Serious eye damage/irritation Category 2B	**ENVIRONMENTAL HAZARDS:** Not Classified **OSHA Defined Hazards:** Not Classified
LABEL ELEMENTS: **Signal Word: None**	**Hazard Statements:** Not available.

PRECAUTIONARY STATEMENTS

Prevention: Not available
Response: Not available
Storage: Not available
Disposal: Not available
Hazards not otherwise classified (HNOC): None known

Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS-No	Weight%
Yttrium	7440-65-5	<=100

Section 4- FIRST AID MEASURES

INHALATION: Remove victim from exposure to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.
SKIN CONTACT: Wash skin off with soap and plenty of water. Get medical attention if irritation develops or persists.
EYE CONTACT: Do not rub eyes. Flush eyes with plenty of water, lifting upper and lower lids, for at least 15 minutes. Get medical attention if irritation develops or persists.
INGESTION: Rinse mouth thoroughly. If ingestion of a large amount does occur, call a poison control center immediately.
MOST IMPORTANT SYMPTOMS/EFFECTS: Not available.
NOTES TO PHYSICIAN: Provide general supportive measures and treat symptomatically.

Section 5- FIREFIGHTING MEASURES

Suitable Extinguishing Media:	**Unsuitable Extinguishing Media:**
Class D dry powder extinguishing agent	Do not use water.

Specific Hazards Arising from the Chemical:
Flammable in the form of dust when exposed to heat, spark or flame. May react with water under fire conditions liberating flammable hydrogen gas. May emit fumes of yttrium oxide under fire conditions.

Fire Fighting Equipment/Instructions:
Use water spray to cool unopened containers.

Protective Equipment & Precautions for Firefighters:
As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.

Specific Methods:
Use standard firefighting procedures and consider the hazards of other involved materials.

Section 6- ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing specified in Section 8. Isolate spill area. Avoid dust formation. Avoid contact with skin and eyes. Avoid breathing dust or fumes. Eliminate all sources of ignition.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

Methods for Containment & Clean Up: Sweep or scoop spilled product and place in a closed container for further handling and disposal. Use only non-sparking tools and natural bristle brushes.

Section 7- HANDLING AND STORAGE

Handling: Avoid prolonged exposure. Use care in handling/storage. Protect from sources of ignition. Avoid contact with skin and eyes. Wear appropriate personal protection equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Storage: Store in a tightly closed container under argon or mineral oil. Store in a cool, dry area. Store away from incompatible materials (see Section 10)

Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Component	CAS-No	OSHA Limits for Air Contaminants (Table Z-1)	US ACGIH Threshold Limit Values	US NIOSH Pocket Guide to Chemical Hazards
Yttrium	7440-65-5	PEL: 1 mg/m³	TWA: 1 mg/m³	TWA: 1 mg/m³

Biological Limit Values: No biological exposure limits noted for the ingredient(s)
Control Parameters: Follow standard monitoring procedures.
Appropriate Engineering Controls: Handle in a humidity controlled atmosphere. Handle in an enclosed, controlled process when possible. Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not blow dust off clothing or skin with compressed air.

Personal Protective Equipment:
Eye/Face Protection: Safety glasses
Skin and Body Protection: Wear impermeable gloves. Wear suitable protective clothing.
Respiratory Protection: In case of insufficient ventilation and permissible levels are exceeded, use NIOSH approved dust respirator.
Thermal Hazards: Not available.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Keep away from food and drink. Wash thoroughly after handling and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid
Color: Silver gray metallic
Odor: Not determined
Odor Threshold: No information available
pH: No information available
Melting Point/Range: 1,522°C / 2,771.6°F
Boiling Point/Range: 3,345°C / 6,040.4°F
Flash Point: Not available
Evaporation Rate: Not available
Flammability (solid,gas): Not available
Flammability or Exposure Limits:
Upper: No data available
Lower: No data available
Vapor Pressure: Not available
Vapor Density: No information available
Relative Density: 4.47 g/cm3
Solubility in H2O: Soluble in hot H2O
Partition coefficient; n-octanol/water: No information available
Auto Ignition Temperature: Not Applicable
Decomposition Temperature: No information available
Viscosity: No information available
Molecular Weight: 88.91 g/mol

Section 10- STABILITY AND REACTIVITY

Reactive Hazard: Not available.

Stability: Stable under normal/recommended conditions.

Possibility of Hazardous Reactions: Flammable in the form of dust when exposed to heat, spark of flame. May react with water under fire conditions liberating flammable hydrogen gas. Contact with acids may evolve hydrogen gas.

Conditions to Avoid: Contact with incompatible products. Heat, sparks, flame and dusting conditions.

Incompatible Materials: acids, acid chlorides, oxidizing agents, halogens, water/moisture, air

Hazardous Decomposition Products: Yttrium oxide, Yttrium Hydroxides, Hydrogen

Section 11- TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin and eyes. Product as shipped does not present an inhalation hazard; however subsequent operations may create dusts or fumes which could be inhaled.
Symptoms Related to the Physical, Chemical & Toxicological Characteristics: May cause irritation.
Information on Toxicological Effects:
Acute Toxicity: Not available
Acute Effect: Not available
Skin Corrosion/Irritation: Not Available
Serious Eye Damage/Eye Irritation: Not available
Respiratory Sensitization: Not available
Skin Sensitization: Not available
Carcinogenicity:

Component	CAS-No	IARC	NTP	OSHA
Yttrium	7440-65-5	Not identified as a carcinogenic	Not identified as carcinogenic	Not Listed

Mutagenic Effects: Not available
Reproductive Effects: Not available
STOT – single exposure: Not available
STOT – repeated exposure: Not available
Aspiration Hazard: Not available
Chronic Effects: Prolonged inhalation may harmful

Section 12- ECOLOGICAL INFORMATION

Ecotoxicity: Not available
Persistence and Degradability: No data available
Bioaccumulation/Accumulation: No data available
Mobility: No data available
Other Adverse Effects: Do not allow material to be released into the environment. No further relevant information available.

Section 13- DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/containers in accordance with local, regional, national and international hazardous waste regulations.

Section 14- TRANSPORT INFORMATION

DOT: Not regulated as dangerous goods

IATA: Not regulated as dangerous goods

IMDG: Not regulated as dangerous goods

Section 15- REGULATORY INFORMATION

US Federal Regulations:
TSCA Section 12(b): Not regulated
U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed
SARA 302 Extremely Hazardous Substance: Not Listed
SARA 313 (TRI reporting): Not regulated
SARA 311/312 Hazardous Chemical: Yes
SARA Hazard Categories:
Immediate Hazard: Yes
Delayed Hazard: No
Fire Hazard: Yes
Pressure Hazard: No
Reactive Hazard: No
Safe Drinking Water Act (SWDA): Not regulated
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated
CERCLA Hazardous Substance List (40 CFR 302.4): Not listed
US California Proposition 65: Not listed
US California Controlled Substances. CA Dept of Justice (California Health & Safety Code Section 11100): Not Listed
US Massachusetts RTK – Substance List: Yttrium (CAS 7440-65-5)
US New Jersey Worker & Community Right-to-Know Act: Not regulated
US Pennsylvania RTK – Hazardous Substances: Yttrium (CAS 7440-65-5)
US Pennsylvania Worker & Community Right-to-Know Law: Yttrium (CAS 7440-65-5)
US Rhode Island RTK: Not regulated

Section 16- OTHER INFORMATION

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