MATERIAL SAFETY DATA SHEET

PRODUCT NAME:	Sapphire	CHEMICAL FAMILY:	Aluminum Oxide
FORMULA:	Al_2O_3	CAS#	1344-28-1
CAS NAME:	Aluminum Oxide	MOLECULAR WEIGHT:	101.9
SYNONIMS:	Al Oxide, Alumina, Sapphire Crystal, Sapphire Sand, Corundum.		

SECTION 1 - HAZARDOUS INGREDIENTS:

TLV (Units): 10 mg/m^3 (15 mg/m^3)

SECTION 2 - PHYSICAL DATA:

BOILING POINT 760 mm Hg:	N/ A	FREEZING POINT:	204 C
SP. GRAVITY (H_2O=1):	4.0	VAPOR DENSITY (air=1):	N/ A
VAPOR PRESSURE:	N/ A	% by WEIGHT:	Negligible
APPEARANCE & ODOR:	White to clear with no odor.		

SECTION 3 - FIRE AND EXPLOSION HAZARDS DATA:

FLASH POINT (Method used): Non-Flammable
FLAMABLE LIMITS: Upper: N/ A; Lower: N/ A
SPECIAL FIRE FIGHTING PROCEDURES: N/ A
UNUSUAL FIRE & EXPLOSION HAZARD: N/ A

AUTOIGNITION TEMPERATURE:
EXTINGUISHING MEDIA: N/ A

SECTION 4 - HEALTH HAZARD INFORMATION:

Threshold Limit Value: 10 mg/m^3 (15 mg/m^3)

EFFECTS OF OVER EXPOSURE:

SWALLOWING: No evidence of adverse effects from available information.
SKIN ABSORPTION: No evidence of adverse effects from available information.

INHALATION: Dust may cause irritation of the nose throat, accompanied by cough and discomfort. Dust may cause upper respiratory tract irritation with discomfort of nose and throat. Aluminum oxide does not cause pneumonoconiosis in man.
SKIN CONTACT: Dust may cause drying of the skin.
EYE CONTACT: Dust may cause irritation.
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: A knowledge of available toxicology information and of the physical and chemical properties of the material suggest that overexposure is unlikely to aggravate existing medical conditions.

SECTION 5 - EMERGENCY AND FIRST AID PROCEDURES:

EYES: Flush with copious amounts of water for 15 minutes.
SKIN: Wash with soap and water and a large volume of water. Seek medical assistance as necessary, especially if irritation develops or persists.
INHALATION: Remove from exposure, seek immediate medical attention.
INGESTION: If ingested in large quantities, drink 2 glasses of water and induce vomiting if patient is conscious.

NOTES TO PHYSICIAN: Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

SECTION 6 - REACTIVITY DATA:

STABILITY: Stable
INCOMPATIBILITY (MATERIAL TO AVOID): Ethylene Oxide, Chlorine Trifluoride
HAZARDOUS DECOMPOSITION PRODUCTS: None known
HAZARDOUS POLYMERIZATION: Will not occur

SECTION 7 - SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Vacuum collection is preferable.
WASTE DISPOSAL METHOD: In accordance with Local, State and Federal Waste Disposal Regulations.

SECTION 8 - SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): If excessive dusting, wear NIOSH or MSHA approved respirator.
VENTILATION: Local dust pick up recommended when machining.
PROTECTIVE GLOVES: Not required but recommended. Prolonged contact with dust or powder may cause drying of skin.
EYE PROTECTION: Safety Glasses.
OTHER PROTECTIVE EQUIPMENT: Normal Lab wears.

SECTION 9 - SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: No special considerations for the product. When machining product, avoid dusting and use with adequate ventilation. Do not take internally.

OTHER HANDLING AND STORING CONDITIONS: Wash thoroughly after handling. Do not breathe dust, vapor, mist, or gas.

CAUTION: Use of this Crystal in laser operations should be supervised by qualified, knowledgeable personnel, in accordance with ANSL Z 136.1, American National Standard for the safe use of lasers.