

MATERIAL SAFETY DATA SHEET

PRODUCT/MATERIAL: ALUMINUM OXIDE
MANUFACTURER/DISTRIBUTOR: Mineral and Pigment Solutions, Inc.
1000 COOLIDGE STREET
SOUTH PLAINFIELD, N.J. 07080
TELEPHONE NUMBER: (908)561-6100

SECTION I - PRODUCT IDENTIFICATION

TRADE NAME	ALUMINA
CHEMICAL NAME	ALUMINUM OXIDE
CHEMICAL FORMULA	Al ₂ O ₃
CAS NUMBER	1344-28-1
HMIS RATING	HEALTH 0 FLAMMABILITY 0 REACTIVITY 0

SECTION II - COMPOSITION

ALUMINUM OXIDE	98.6 to 99.9 %	OSHA PEL: 15 mg/m ³ (Total) 5 mg/m ³ (Respirable) ACGIH TLV: 10 mg/m ³ (Total-TWA)
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SECTION III - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: NON-FLAMMABLE, NON-CORROSIVE, NO ODR; NOT AN EXPLOSION HAZARD. DUST CAN CAUSE MILD IRRITATION TO EYES, SKIN, AND UPPER RESPIRATORY TRACT. WHITE, ODORLESS CRYSTALLINE POWDER, GRANULES, OR BALLS.

POTENTIAL HEALTH EFFECTS: EYES - CAN CAUSE MILD IRRITATION, ESPECIALLY WHEN WET.
SKIN - CAN CAUSE MILD IRRITATION.
INGESTION - CAN CAUSE MILD IRRITATION.
INHALATION - CAN CAUSE MILD RESPIRATORY TRACT IRRITATION.

ALUMINA IS A LOW HEALTH RISK BY INHALATION AND SHOULD BE TREATED AS A NUISANCE DUST AS SPECIFIED BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH).

THIS PRODUCT MAY CONTAIN SILICATES AT <1% BY WEIGHT. SILICATES INCLUDE METAL SILICATES, AMORPHOUS AND CRYSTALLINE SILICA. NO ANALYTICAL METHOD EXISTS TO DETECT AND DIFFERENTIATE BETWEEN AMORPHOUS AND CRYSTALLINE SILICA AND OTHER SILICATES AT <1% BY WEIGHT. BASED ON THE CHEMISTRY OF BAUXITE DERIVED PRODUCTS, CRYSTALLINE SILICA IS NOT EXPECTED TO BE PRESENT IN THIS PRODUCT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE TO THE PRODUCT: ASTHMA, CHRONIC LUNG DISEASE, AND SKIN RASHES.

SECTION IV - FIRST AID MEASURES

EYES: FLUSH EYES WITH PLENTY OF WATER OR SALINE FOR AT LEAST 15 MINUTES. CONSULT A PHYSICIAN.

SKIN: WASH WITH SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT A PHYSICIAN IF IRRITATION PERSISTS.

INHALATION: REMOVE TO FRESH AIR. CHECK FOR CLEAR AIRWAY, BREATHING, AND PRESENCE OF PULSE. PROVIDE CPR FOR PERSONS WITHOUT PULSE OR RESPIRATIONS. CONSULT A PHYSICIAN.

INGESTION: IF SWALLOWED, DILUTE WITH LARGE AMOUNTS OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO A CONVULSING OR UNCONSCIOUS PERSON.

SECTION V - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: NON-FLAMMABLE

FLASH POINT - NONE

FLAMMABLE LIMITS - NOT APPLICABLE

AUTO-IGNITION TEMPERATURE - NOT APPLICABLE

HAZARDOUS COMBUSTION PRODUCTS: NONE

EXTINGUISHING MEDIA: USE EXTINGUISHING AGENT APPLICABLE TO SURROUNDING FIRE.

FIRE FIGHTING INSTRUCTIONS: FIRE FIGHTERS SHOULD WEAR NIOSH APPROVED, POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING WHEN APPROPRIATE.

SECTION VI - ACCIDENTAL RELEASE MEASURES

SMALL/LARGE SPILL: CLEAN UP USING DRY PROCEDURES; AVOID DUSTING.

SECTION VII - HANDLING AND STORAGE

HANDLING: AVOID CONTACT WITH EYES AND SKIN. AVOID INHALING DUST.

STORAGE: KEEP MATERIAL DRY.

SECTION VIII - EXPOSURE CONTROLS

ENGINEERING CONTROLS: USE WITH ADEQUATE VENTILATION TO MEET EXPOSURE LIMITS LISTED IN SECTION II.

RESPIRATORY PROTECTION: NIOSH APPROVED DUST RESPIRATOR IF OVEREXPOSURE POTENTIAL EXISTS.

SKIN PROTECTION: WEAR APPROPRIATE GLOVES TO AVOID DIRECT SKIN CONTACT.

EYE PROTECTION: SAFETY GLASSES RECOMMENDED TO AVOID DIRECT EYE CONTACT.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: WHITE, CRYSTALLINE POWDER, GRANULES, OR BALLS.

BOILING POINT: NOT APPLICABLE.

MELTING POINT: 3727°F (2053°C)

VAPOR PRESSURE: NOT APPLICABLE

VAPOR DENSITY: NOT APPLICABLE

SOLUBILITY IN WATER: INSOLUBLE; SOLUBLE IN CONCENTRATED ACIDS AND ALKALIES.

SPECIFIC GRAVITY: 3.6-3.9

pH: 9.0-10.0 (APPROX.) AT 33% SOLIDS IN DEIONIZED WATER.

ODOR: NONE

ODOR THRESHOLD: NOT APPLICABLE

COEFFICIENT OF WATER/OIL DISTRIBUTION: NOT APPLICABLE

SECTION X - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: A RISE IN TEMPERATURE MAY RESULT FROM CONTACT WITH WATER.

INCOMPATIBILITY: NONE

HAZARDOUS DECOMPOSITION PRODUCTS: NONE

HAZARDOUS POLYMERIZATION: NONE

SECTION XI - TOXICOLOGICAL INFORMATION

NO LD₅₀ OR LC₅₀ FOUND FOR ORAL, DERMAL OR INHALATION ROUTES OF ADMINISTRATION.

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SECTION XII - ECOLOGICAL INFORMATION

WATER HAZARD CLASS: 0 (GERMAN REGULATION). (SELF-ASSESSMENT): GENERALLY NOT HAZARDOUS FOR WATER.

SECTION XIII - DISPOSAL CONSIDERATIONS

COLLECT IN CONTAINERS, BAGS, OR COVERED DUMPSTER BOXES. IF REUSE OR RECYCLING IS NOT POSSIBLE, MATERIAL MAY BE DISPOSED OF AT AN INDUSTRIAL LANDFILL.

RCRA HAZARDOUS WASTE NUMBER: NOT FEDERALLY REGULATED.

SECTION XIV - TRANSPORTATION INFORMATION

U.S. DOT: NOT REGULATED - ENTER THE PROPER FREIGHT CLASSIFICATION ON THE SHIPPING PAPERWORK, "MSDS NUMBER", AND "PRODUCT NAME" FOR SHIPPING PURPOSES.

CANADIAN TDG HAZARD CLASS & PIN: NOT REGULATED.

SECTION XV - REGULATORY INFORMATION

TSCA STATUS: COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

CERCLA REPORTABLE QUANTITY: NONE

SARA TITLE III

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: NONE

SECTION 311/312 HAZARDOUS CATEGORIES: IMMEDIATE (ACUTE), IF PARTICULATES ARE GENERATED DURING PROCESSING.

SECTION 313 TOXIC CHEMICALS: NONE

THIS MATERIAL DOES NOT CONTAIN NOR WAS IT MANUFACTURED USING OZONE DEPLETING CHEMICALS. (TITLE IV-CLEAN AIR ACT 1990).
INTERNATIONAL REGULATIONS:

CANADIAN DSL - COMPONENTS ARE LISTED.

CANADIAN WHMIS - NOT A CONTROLLED SUBSTANCE.

EUROPEAN COMMUNITY - LISTED ON ECDIN, THE EUROPEAN CORE INVENTORY.

AUSTRALIA - ALL COMPONENTS LISTED ON AICS INVENTORY.

MITI (JAPAN) - ALL COMPONENTS LISTED.

SECTION XVI - OTHER INFORMATION

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH AS AUTHORITATIVE AND VALID; HOWEVER, NO WARRANTY, EXPRESSED OR IMPLIED, CAN BE MADE.

ISSUED: 2/04

SUPERCEDES: 3/01