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SDS

Common Name: ALUMINUM OXIDE**Manufacturer:** DETROIT ABRASIVES**SDS Revision Date:** 1/29/2015**SDS Format:** GHS-US**Grainger Item Number(s):** 6YY34, 6YY35, 6YY36, 6YY37, 6YY38, 6YY39, 6YY40, 6YY41, 6YY42, 6YY43**Manufacturer Model Number(s):**

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SAFETY DATA SHEET

PRODUCT IDENTIFIER: ALUMINUM OXIDE

SDS

SECTION 1 - IDENTIFICATION



PRODUCT IDENTIFIER:

MATERIAL NAME: ALUMINUM OXIDE

SYNONYMS:

ALUNDUM; ALUMINA; DIALUMINUM TRIOXIDE; ALUMINUM SESQUIOXIDE; ALPHA-ALUMINA;
BETA-ALUMINA; GAMMA-ALUMINA; ALUMITE; ALMITE; MARTOXIN; BAIKALOX POLISHING
CHEMICALS (BAIKOWSKI INTERNATIONAL CO.); TABULAR ALUMINA (ALCOA); ALUMINUM
OXIDE (AL₂O₃); ALUMINUM TRIOXIDE; LINDE A.B.C (UNION CARBIDE CORPORATION);
UCAR SF-6, SF-18, SF-2 (UNION CARBIDE CORPORATION); D ALUMINA POWDERS

(UNION CARBIDE CORPORATION); 420003704; WESGO ALUMINA CERAMICS; AL₂O₃

CHEMICAL FAMILY: METAL OXIDES

RECOMMENDED USE: COMMERCIAL CHEMICAL

RESTRICTIONS ON USE: NONE KNOWN.

SUPPLIER INFORMATION:

MANUFACTURER/SUPPLIER:
DETROIT ABRASIVES COMPANY
1500 WEST OLIVER STREET
OWOSSO, MI 48867

PH: (989) 725-2405

EMERGENCY #: (989) 725-2405

SECTION 2 - HAZARD(S) IDENTIFICATION



CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910.1200.:

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE, CATEGORY 3
(RESPIRATORY TRACT)

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE, CATEGORY 1 (LUNGS)

GHS LABEL ELEMENTS:

SYMBOL(S):
EXCLAMATION MARK
HEALTH HAZARD

SIGNAL WORD: DANGER

HAZARD STATEMENT(S):
MAY CAUSE RESPIRATORY IRRITATION
CAUSES DAMAGE TO LUNGS THROUGH PROLONGED OR REPEATED EXPOSURE.

PRECAUTIONARY STATEMENT(S):

PREVENTION:
DO NOT BREATHE DUST OR MIST. USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. DO NOT EAT. DRINK OR SMOKE WHEN USING THIS PRODUCT. WASH THOROUGHLY AFTER HANDLING.

RESPONSE:
GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL.

IF INHALED:
REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING.
CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL.

STORAGE:
STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. STORE LOCKED UP.

DISPOSAL: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS



CAS	COMPONENT	PERCENT
1344-28-1	ALUMINUM OXIDE	100

COMPONENT RELATED REGULATORY INFORMATION:
THIS PRODUCT MAY BE REGULATED, HAVE EXPOSURE LIMITS OR OTHER INFORMATION
IDENTIFIED AS THE FOLLOWING:
ALUMINIUM COMPOUNDS, ALUMINUM INSOLUBLE COMPOUNDS, ALUMINIUM OXIDES,
ALUMINUM OXIDE (135152-65-7).

SECTION 4 - FIRST-AID MEASURES



DESCRIPTION OF NECESSARY MEASURES:

INHALATION:
IF ADVERSE EFFECTS OCCUR, REMOVE TO UNCONTAMINATED AREA. GIVE ARTIFICIAL
RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

SKIN CONTACT:
WASH SKIN WITH SOAP AND WATER FOR AT LEAST 15 MINUTES WHILE REMOVING
CONTAMINATED CLOTHING AND SHOES. GET MEDICAL ATTENTION IF IRRITATION
DEVELOPS OR PERSISTS. WASH CONTAMINATED CLOTHING BEFORE REUSE.

EYE CONTACT:
RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF
PRESENT AND EASY TO DO. CONTINUE RINSING.

IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.

INGESTION: IF SWALLOWED, GET MEDICAL ATTENTION.

MOST IMPORTANT SYMPTOMS/EFFECTS:

ACUTE: RESPIRATORY TRACT IRRITATION

DELAYED: LUNG DAMAGE.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF
NEEDED: TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

SECTION 5 - FIRE-FIGHTING MEASURES



SUITABLE EXTINGUISHING MEDIA:
USE EXTINGUISHING AGENTS APPROPRIATE FOR SURROUNDING FIRE.

UNSUITABLE EXTINGUISHING MEDIA: NONE KNOWN.

SPECIAL HAZARDS ARISING FROM THE CHEMICAL:
NEGLIGIBLE FIRE AND EXPLOSION HAZARD IN BULK FORM. AVOID GENERATING DUST;
FINE DUST DISPERSED IN AIR IN SUFFICIENT CONCENTRATIONS, AND IN THE
PRESENCE OF AN IGNITION SOURCE IS A POTENTIAL DUST EXPLOSION HAZARD.

HAZARDOUS COMBUSTION PRODUCTS:
COMBUSTION: MISCELLANEOUS DECOMPOSITION PRODUCTS

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING.

FIRE FIGHTING MEASURES:
MOVE CONTAINER FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. AVOID
INHALATION OF MATERIAL OR COMBUSTION BY-PRODUCTS. STAY UPWIND AND KEEP
OUT OF LOW AREAS.

SECTION 6 - ACCIDENTAL RELEASE MEASURES



PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

WEAR PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT, SEE SECTION 8. AVOID RELEASE TO THE ENVIRONMENT.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:
COLLECT SPILLED MATERIAL IN APPROPRIATE CONTAINER FOR DISPOSAL. AVOID GENERATING DUST. CLEAN UP RESIDUE WITH A HIGH-EFFICIENCY PARTICULATE FILTER VACUUM.

SECTION 7 - HANDLING AND STORAGE



PRECAUTIONS FOR SAFE HANDLING:
OBSERVE GOOD HYGIENE AND SAFETY PRACTICES WHEN HANDLING THIS PRODUCT. AVOID CREATION OF DUST. DO NOT BREATHE DUST. USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. DO NOT EAT, DRINK, OR SMOKE WHEN USING THIS PRODUCT. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
STORE AND HANDLE IN ACCORDANCE WITH ALL CURRENT REGULATIONS AND STANDARDS. STORE IN A TIGHTLY CLOSED CONTAINER. STORE IN A WELL-VENTILATED AREA. STORE LOCKED UP. KEEP SEPARATED FROM INCOMPATIBLE SUBSTANCES.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION



COMPONENT EXPOSURE LIMITS:

ALUMINUM OXIDE (1344-28-1):

ACGIH:

1 MG/M3 TWA (RESPIRABLE FRACTION, RELATED TO ALUMINUM INSOLUBLE COMPOUNDS)

OSHA:

15 MG/M3 TWA (TOTAL DUST)

5 MG/M3 TWA (RESPIRABLE FRACTION)

MEXICO: 10 MG/M3 TWA LMPE-PPT

BIOLOGICAL LIMIT VALUES - COMPONENT ANALYSIS:
THERE ARE NO BIOLOGICAL LIMIT VALUES FOR ANY OF THIS PRODUCT'S COMPONENTS.

APPROPRIATE ENGINEERING CONTROLS:
PROVIDE LOCAL EXHAUST VENTILATION SYSTEM. ENSURE COMPLIANCE WITH APPLICABLE EXPOSURE LIMITS.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT:

EYES/FACE PROTECTION:

WEAR SAFETY GLASSES WITH SIDE SHIELDS. PROVIDE AN EMERGENCY EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER IN THE IMMEDIATE WORKAREA.

SKIN PROTECTION: WEAR APPROPRIATE CHEMICAL RESISTANT CLOTHING.

GLOVE RECOMMENDATIONS: WEAR APPROPRIATE CHEMICAL RESISTANT GLOVES.

RESPIRATORY PROTECTION:
UNDER CONDITIONS OF FREQUENT USE OR HEAVY EXPOSURE, RESPIRATORY PROTECTION MAY BE NEEDED.

RESPIRATORY PROTECTION IS RANKED IN ORDER FROM MINIMUM TO MAXIMUM.

CONSIDER WARNING PROPERTIES BEFORE USE.

ANY PARTICULATE RESPIRATOR EQUIPPED WITH AN N95, R95, OR P95 FILTER (INCLUDING N95, R95, AND P95 FILTERING FACEPIECES) EXCEPT QUARTER-MASK RESPIRATORS. THE FOLLOWING FILTERS MAY ALSO BE USED:
N99, R99, P99, N100, R100 OR P100.

ANY AIR-PURIFYING FULL-FACEPIECE RESPIRATOR EQUIPPED WITH AN N95, R95. OR P95 FILTER. THE FOLLOWING FILTERS MAY ALSO BE USED:
N99, R99, P99, N100, R100 OR P100.

ANY POWERED, AIR-PURIFYING RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE FILTER.

ANY POWERED, AIR-PURIFYING RESPIRATOR WITH A TIGHT-FITTING FACEPIECE AND A HIGH-EFFICIENCY PARTICULATE FILTER.

ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE THAT IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

FOR UNKNOWN CONCENTRATIONS OR IMMEDIATELY DANGEROUS TO LIFE OR HEALTH:
ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE THAT IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES



PHYSICAL STATE: SOLID

APPEARANCE: WHITE TO GRAY CRYSTALS OR POWDER

COLOR: WHITE TO GRAY

PHYSICAL FORM: CRYSTALS OR POWDER

ODOR: ODORLESS

ODOR THRESHOLD: NOT AVAILABLE

MELTING POINT: 2053 - 2072 DEG. C

BOILING POINT: 2980 DEG. C

FLASH POINT: NOT APPLICABLE

DECOMPOSITION: NOT AVAILABLE

LEL: NOT AVAILABLE

UEL: NOT AVAILABLE

VAPOR PRESSURE: 1 MMHg @ 2158 DEG. C

VAPOR DENSITY (AIR = 1): NOT APPLICABLE

DENSITY: NOT AVAILABLE

SPECIFIC GRAVITY (WATER = 1): 3.965 @ 25 DEG. C

WATER SOLUBILITY: INSOLUBLE

LOG KOW: NOT AVAILABLE

COEFF. WATER/OIL DIST: NOT AVAILABLE

AUTO IGNITION: NOT AVAILABLE

VISCOSITY: NOT AVAILABLE

VOLATILITY: <0.5 %

MOLECULAR WEIGHT: 101.96

MOLECULAR FORMULA: AL₂O₃

FLAMMABILITY (SOLID, GAS): NOT FLAMMABLE

CRITICAL TEMPERATURE: NOT APPLICABLE

OTHER PROPERTY INFORMATION: NO ADDITIONAL INFORMATION IS AVAILABLE.

SOLVENT SOLUBILITY:

SLIGHTLY SOLUBLE: MINERAL ACIDS, STRONG ALKALI

PRACTICALLY INSOLUBLE: NONPOLAR ORGANIC SOLVENTS

SECTION 10 - STABILITY AND REACTIVITY



REACTIVITY: NO REACTIVITY HAZARD IS EXPECTED.

CHEMICAL STABILITY: STABLE AT NORMAL TEMPERATURES AND PRESSURE.

POSSIBILITY OF HAZARDOUS REACTIONS: WILL NOT POLYMERIZE.

CONDITIONS TO AVOID:

AVOID GENERATING DUST. AVOID CONTACT WITH INCOMPATIBLE MATERIALS.

INCOMPATIBLE MATERIALS:

HALO CARBONS, HALOGENS, COMBUSTIBLE MATERIALS, OXIDIZING MATERIALS

HAZARDOUS DECOMPOSITION:

COMBUSTION: MISCELLANEOUS DECOMPOSITION PRODUCTS

SECTION 11 - TOXICOLOGICAL INFORMATION



ACUTE TOXICITY:

COMPONENT ANALYSIS - LD₅₀/LC₅₀:

THE COMPONENTS OF THIS MATERIAL HAVE BEEN REVIEWED IN VARIOUS SOURCES AND THE FOLLOWING SELECTED ENDPOINTS ARE PUBLISHED:

ALUMINUM OXIDE (1344-28-1):

ORAL LD₅₀ RAT: >5000 MG/KG

INHALATION: IRRITATION, DIFFICULTY BREATHING

INGESTION: NO INFORMATION ON SIGNIFICANT ADVERSE EFFECTS

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

IMMEDIATE EFFECTS: RESPIRATORY TRACT IRRITATION

DELAYED EFFECTS: LUNG DAMAGE

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: RESPIRATORY DISORDERS

IRRITATION/CORROSIVITY DATA: RESPIRATORY TRACT IRRITATION

RESPIRATORY SENSITIZATION: NO INFORMATION AVAILABLE FOR THE PRODUCT.

DERMAL SENSITIZATION: NO INFORMATION AVAILABLE FOR THE PRODUCT.

GERM CELL MUTAGENICITY: NO INFORMATION AVAILABLE FOR THE PRODUCT.

CARCINOGENICITY:**COMPONENT CARCINOGENICITY:**

ALUMINUM OXIDE (1344-28-1):

ACGIH:

A4 - NOT CLASSIFIABLE AS A HUMAN CARCINOGEN (RELATED TO ALUMINUM INSOLUBLE COMPOUNDS)

DFG: CATEGORY 2 (CONSIDERED TO BE CARCINOGENIC FOR MAN, FIBRE DUST)

REPRODUCTIVE TOXICITY: NO INFORMATION AVAILABLE FOR THE PRODUCT.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE: RESPIRATORY TRACT

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE: LUNGS

ASPIRATION HAZARD: NOT EXPECTED TO BE AN ASPIRATION HAZARD.

SECTION 12 - ECOLOGICAL INFORMATION**COMPONENT ANALYSIS - AQUATIC TOXICITY:**

NO LOLI ECOTOXICITY DATA ARE AVAILABLE FOR THIS PRODUCT'S COMPONENTS.

PERSISTENCE AND DEGRADABILITY: NO INFORMATION AVAILABLE FOR THE PRODUCT.

BIOACCUMULATION: NO INFORMATION AVAILABLE FOR THE PRODUCT.

MOBILITY: NO INFORMATION AVAILABLE FOR THE PRODUCT.

OTHER TOXICITY: NO ADDITIONAL INFORMATION IS AVAILABLE.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

DISPOSAL OF CONTAMINATED PACKAGING:

EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE. DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

COMPONENT WASTE NUMBERS:

THE U.S. EPA HAS NOT PUBLISHED WASTE NUMBERS FOR THIS PRODUCT'S COMPONENTS.

SECTION 14 - TRANSPORT INFORMATION

US DOT INFORMATION: NO CLASSIFICATION ASSIGNED.

TDG INFORMATION: NO CLASSIFICATION ASSIGNED.

IATA INFORMATION: NO CLASSIFICATION ASSIGNED.

SECTION 15 - REGULATORY INFORMATION**U.S. FEDERAL REGULATIONS:**

THIS-MATERIAL CONTAINS ONE OR MORE OF THE FOLLOWING CHEMICALS REQUIRED TO BE IDENTIFIED UNDER SARA SECTIONS 302/304 (40 CFR 355 APPENDIX A), SARA SECTION 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(B), AND/OR REQUIRE AN OSHA PROCESS SAFETY PLAN.

ALUMINUM OXIDE (1344-28-1):
SARA 313: 1.0% DE MINIMIS CONCENTRATION (FIBROUS FORMS)

SARA 311/312:
ACUTE HEALTH: YES
CHRONIC HEALTH: YES
FIRE: NO
PRESSURE: NO
REACTIVE: NO

U.S. STATE REGULATIONS:
THE FOLLOWING COMPONENTS APPEAR ON ONE OR MORE OF THE FOLLOWING STATE
HAZARDOUS SUBSTANCES LISTS:

COMPONENT	CAS	CA	MA	MN	NJ	PA
ALUMINUM OXIDE	1344-28-1	YES	YES	YES	YES	YES

NOT REGULATED UNDER CALIFORNIA PROPOSITION 65

CANADA:
WHMIS CLASSIFICATION: D2B

CANADA WHMIS:
THE FOLLOWING COMPONENTS ARE IDENTIFIED UNDER THE CANADIAN HAZARDOUS
PRODUCTS ACT INGREDIENT DISCLOSURE LIST:

ALUMINUM OXIDE (1344-28-1): 1%

CHEMICAL INVENTORY LISTING - US:

COMPONENT ANALYSIS - INVENTORY:

COMPONENT	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
ALUMINUM OXIDE	1344-28-1	YES	DSL	EIN	YES	YES	YES	YES	YES	YES

SECTION 16 - OTHER INFORMATION



SUMMARY OF CHANGES:
UPDATED: 1/29/2015

NFPA RATINGS:
HEALTH 2
FIRE 1
REACTIVITY 0

HAZARD SCALE:
0 = MINIMAL
1 = SLIGHT
2 = MODERATE
3 = SERIOUS
4 = SEVERE

KEY/LEGEND:

ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

ADR: EUROPEAN ROAD TRANSPORT

AU: AUSTRALIA

BOD: BIOCHEMICAL OXYGEN DEMAND

C: CELSIUS

CA: CANADA

CAS: CHEMICAL ABSTRACTS SERVICE

CERCLA:
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

CN: CHINA

CPR: CONTROLLED PRODUCTS REGULATIONS

DFG: DEUTSCHE FORSCHUNGSGEMEINSCHAFT

DOT: DEPARTMENT OF TRANSPORTATION

DSL: DOMESTIC SUBSTANCES LIST

EEC: EUROPEAN ECONOMIC COMMUNITY

EINECS: EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES

EPA: ENVIRONMENTAL PROTECTION AGENCY

EU: EUROPEAN UNION

F: FAHRENHEIT

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IATA: INTERNATIONAL AIR TRANSPORT ASSOCIATION

ICAO: INTERNATIONAL CIVIL AVIATION ORGANIZATION

IDL: INGREDIENT DISCLOSURE LIST

IDLH: IMMEDIATELY DANGEROUS TO LIFE AND HEALTH

IMDG: INTERNATIONAL MARITIME DANGEROUS GOODS

JP: JAPAN

KOW: OCTANOL/WATER PARTITION COEFFICIENT

KR: KOREA

LEL: LOWER EXPLOSIVE LIMIT

LOLI: LIST OF LISTS(TM) - CHEMADVISOR'S REGULATORY DATABASE

MAK: MAXIMUM CONCENTRATION VALUE IN THE WORKPLACE

MEL: MAXIMUM EXPOSURE LIMITS

NFPA: NATIONAL FIRE PROTECTION AGENCY

NIOSH: NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

NJTSR: NEW JERSEY TRADE SECRET REGISTRY

NTP: NATIONAL TOXICOLOGY PROGRAM

NZ: NEW ZEALAND

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

PH: PHILIPPINES

RCRA: RESOURCE CONSERVATION AND RECOVERY ACT

RID: EUROPEAN RAIL TRANSPORT

RTECS: REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (R*)

SARA: SUPERFUND AMENDMENTS; AND REAUTHORIZATION ACT

STEL: SHORT-TERM EXPOSURE LIMIT

TDG: TRANSPORTATION OF DANGEROUS GOODS

TSCA: TOXIC SUBSTANCES CONTROL ACT

TWA: TIME WEIGHTED AVERAGE

UEL: UPPER EXPLOSIVE LIMIT

US: UNITED STATES

OTHER INFORMATION:

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