

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	A.C. Fine Test Dust, A.C. Coarse Test Dust		
Product Content:	A.C. Fine Test Dust, A.C. Coarse Test Dust		
Company Identification	Microgenics Corporation	Company Phone Number	(510) 979-5000
Office Address	46360 Fremont Blvd.	Emergency Phone Number	(510) 979-5000
City, State, Zip Code	Fremont, CA 94538	CHEMTREC Phone Number, US	(800) 424-9300
Country	USA	CHEMTREC Phone Number, Europe	(202) 483-7616

SECTION 2 - HAZARD IDENTIFICATION

CAUTION! Product may cause lung irritation if inhaled. By normal use the product is not regarded as hazardous to health. The product is not classified as flammable or harmful to the environment; may cause eye, skin, digestive track, and respiratory track irritation. The toxicological properties of this material have not been fully investigated. This product is not classified as dangerous in accordance with Directive 1999/45/EC or 67/548/EEC

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component: Name</u>	<u>CAS Number:</u>	<u>Percentage:</u>	<u>EINECS/ELINCS</u>
Amorphous silica	63231-67-4	65-70	N/A
Aluminum oxide	1344-28-1	15-20	215-691-6
Ferric oxide	1309-37-1	1-5	215-168-2
Calcium oxide	1305-78-8	2-3	215-138-9
Magnesium oxide	1309-48-4	0-1	215-171-9
Other alkalis	various	varies	

SECTION 4 - FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water for at least 15 minutes. Get medical attention if irritation develops and persists
 SKIN CONTACT: In case of contact remove clothes, wash area with soap and flush with plenty of water. Get medical attention if irritation develops and persists.
 INHALATION: Remove to fresh air. Flush thoroughly with water for at least 15 minutes. If breathing is difficult, give oxygen, seek medical advice
 INGESTION: Give one to two glasses of water and seek medical advice

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Not considered flammable or explosive. NFPA/HMIS Rating (estimated): Health: 1; Flammability: 0; Instability: 0
 PROTECTION FOR FIREFIGHTERS: Use extinguishing media appropriate for surrounding fire (water, foam, vaporizing liquid or multipurpose dry chemical) and NIOSH-approved self-contained breathing apparatus

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Areas covered with spilled particles may be slippery. If material is spilled or released, cordon off the area. Collect material by wiping the spill area with a damp paper towel or disposable wipe, and place materials into an appropriate container. Alternatively, use a vacuum cleaner equipped with a high efficiency particulate air (HEPA) filter. Avoid inhaling fine particle dust. Discard collected material in containers suitable for proper disposal

SECTION 7 - HANDLING AND STORAGE

Keep tightly sealed to prevent contamination; store at room temperature in a dry area. Avoid damaging or puncturing containers. When creating aerosols of fine particles use minimal and directional (away from the user) airflow

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION
Occupational Exposure Limits

Chemical Name – A.C. Fine Test Dust, A.C. Coarse Test Dust

	OSHA PEL TWA / 8 hour	Cal/OSHA EPLTWA/8 hr	ACGIH TLV TWA / 8 hours	AIHA	NIOSH LDH/TWA
Amorphous silica (precipitated or gel)	20 mppcf (million part./ft ³)	6 mg/m ³	10 mg/m ³ (total dust)	Not listed	Not listed
Aluminum oxide	15 mg/m ³ , 5 mg/m ³ resp	10 mg/m ³	10 mg/m ³ (total dust)	Not listed	10 mg/m ³ (total), 5 mg/m ³ resp
Ferric oxide	10 mg/m ³	5 mg/m ³	5 mg/m ³	Not listed	5 mg/m ³ TWA (dust and fume)
Calcium oxide	5 mg/m ³	2 mg/m ³	2 mg/m ³	Not listed	2 mg/m ³
Magnesium oxide	15 mg/m ³	10 mg/m ³	10 mg/m ³	Not listed	750 mg/m ³ IDLH (fume)
Other alkalis	15 mg/m ³ , 5 mg/m ³ resp	10 mg/m ³	10 mg/m ³	Not listed	Not listed

EXPOSURE GUIDELINES: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Safety glasses with side shields are suggested

ENGINEERING CONTROLS: Use minimal and directional (away from the user) airflow to minimize worker exposure

SKIN PROTECTION: Wear appropriate protective gloves to prevent skin exposure. No skin irritation expected

RESPIRATORY PROTECTION: Respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149

GENERAL HYGIENE CONSIDERATIONS: Wear appropriate protective clothing to prevent skin exposure

SYSTEMIC: Acute: If inhaled in large quantities, may cause lung irritation

Chronic: If inhaled in large quantities, may cause lung irritation. Repeated overexposure may result in accumulation and deposition of metal in the lung (siderosis, in the case of iron oxide deposition)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	N/A	SOLUBILITY IN WATER:	N/A	FLASH POINT:	N/A
MELTING POINT:	N/A	EVAPORATION RATE:	N/A	FLAMMABLE PROPERTIES:	N/A
PHYSICAL STATE:	solid	VAPOR PRESSURE:	N/A	AUTO IGNITION TEMP:	N/A
VAPOR DENSITY:	N/A	pH: N/A Kow:	N/A		
DECOMPOSITION:	N/A	MOLECULAR WEIGHT	N/A	SPECIFIC GRAVITY:	2.6
APPEARANCE, COLOR, ODOR:	Beige or gray powder				

SECTION 10 - STABILITY AND REACTIVITY

STABILITY:	Stable at room temperature in closed containers under normal storage and handling conditions
INCOMPATIBILITY:	fluorine, magnesium, alum, acids, ammonium salts
HAZARDOUS DECOMPOSITION PRODUCTS:	Not known
HAZARDOUS POLYMERIZATION:	Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY: Material is not considered to be a reproductive or developmental toxicant
 CARCINOGENICITY: Material is not listed by NTP, ACGIH, IARC or OSHA as a carcinogen. For more information refer to Section 2

TUMORIGENIC DATA

CAS# 1344-28-1	Intraleural rat TDLo= 90 mg/kg	Implant rat TDLo= 200 mg/kg	Implant rat TD= 200 mg/kg
CAS# 1309-37-1	Subcutaneous rat TDLo= 135 mg/kg		
CAS# 1309-48-4	Intratracheal hamster TDLo= 480 mg/kg/30W-I		

ACUTE TOXICITY DATA

CAS# 1309-37-1	Subcutaneous dog LDLo= 30 mg/kg
CAS# 1309-48-4	Inhalation Human TClO= 400 mg/m3

MULTIPLE DOSE TOXICITY DATA

CAS# 1309-37-1	Inhalation rat TClO=500 ug/m3/24H/61D-C
CAS# 1309-48-4	Inhalation rat TClO= 1120 ug/m3/24H/29D-C

NOES Hazard Codes

CAS# 63231-67-4	NOES- M1532	NOHS-M1532	RTECS - VV7340000
CAS# 1344-28-1	NOES - X3152, X5459, X5758, X9687	NOHS - 20265	RTECS - BD1200000
CAS# 1309-37-1	NOES - M1463	NOHS - M1463	RTECS - NO7400000
CAS# 1305-78-8	NOES - X9892	NOHS - 15755	RTECS - EW3100000
CAS# 1309-48-4	NOES -80298	NOHS -80298	RTECS -OM3850000

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY	Not regarded as dangerous for the environment LC/EC/IC50 > 100 mg/L
PERSISTENCE/DEGRADATION	No information found
BIOACCUMULATION/ACCUMULATION	No information found
MOBILITY IN ENVIRONMENTAL MEDIA	not soluble in water
ENVIRONMENTAL	Not classified as harmful to the environment (OSPAR)
OTHER ADVERSE EFFECTS	No information found

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of any waste residues according to prescribed federal, state, and local guidelines (e.g., to an appropriately permitted chemical waste incinerator).
 None of the components are on RCRA P& RCRA U Series Wastes list. EWC waste code 18 01 05 discard as chemicals and medicines
 Other Information: According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used

SECTION 14 - TRANSPORTATION INFORMATION

HAZARD CLASS: Not classified per US DOT, TDG, UNECE, ADR, ADN, IATA, ICAO, RID, IMDG/IMO, OTIF, Mexico

SECTION 15 - REGULATORY INFORMATION

CAS# 63231-67-4

TSCA 8(b)	SARA 302	SARA 313	CERCL A	RCRA 261.33	TSCA 8(d)	TSCA 12(b)	FIFRA	CWC	SARA 311/312	EPICRA	CAA-SNAP	FDA	USDA
yes	no	no	no	no	no	no	yes	no	no	no	no	no	no

CAS# 1344-28-1

TSCA 8(b)	SARA 302	SARA 313	CERCL A	RCRA 261.33	TSCA 8(d)	TSCA 12(b)	FIFRA	CWC	SARA 311/312	EPICRA	CAA-SNAP	FDA	USDA
yes	no	yes	yes	no	no	no	yes	no	no	no	no	no	no

CAS# 1309-37-1

TSCA 8(b)	SARA 302	SARA 313	CERCL A	RCRA 261.33	TSCA 8(d)	TSCA 12(b)	FIFRA	CWC	SARA 311/312	EPICRA	CAA-SNAP	FDA	USDA
yes	no	no	no	no	yes	no	yes	no	no	no	no	yes	no

CAS# 1305-78-8

TSCA 8(b)	SARA 302	SARA 313	CERCL A	RCRA 261.33	TSCA 8(d)	TSCA 12(b)	FIFRA	CWC	SARA 311/312	EPICRA	CAA-SNAP	FDA	USDA
yes	no	no	no	no	no	no	yes	no	no	no	no	yes	no

CAS# 1309-48-4

TSCA 8(b)	SARA 302	SARA 313	CERCL A	RCRA 261.33	TSCA 8(d)	TSCA 12(b)	FIFRA	CWC	SARA 311/312	EPICRA	CAA-SNAP	FDA	USDA
yes	no	no	no	no	no	no	yes	no	no	no	no	yes	no

SECTION 15 - REGULATORY INFORMATION (continued)

Not subject to ITAR and EAR regulations

CAS# 63231-67-4 Massachusetts, Minnesota, Pennsylvania= RTK **California** - Prop 65, Title 8 CCR, Title 22 CCR, ATHS, Occupational Exposure Limits, Ozone Depleting Compounds, Precursor Chemicals, SCAQMD, California - No Significant Risk Level - **No information found.** None of the chemicals are on Prop 65 lists

CAS#1344-28-1 **OEL-TWA:** Alaska, Michigan, Minnesota, North Carolina, Oregon, Tennessee, Vermont, Washington=10 mg/m³; Idaho, Indiana =15 mg/m³; Arizona, California, Connecticut, Delaware, Hawaii, Kentucky, Massachusetts, New Jersey, Pennsylvania, Rhode Island, Tennessee, Texas= RTK ; **California** - Prop 65, Title 8 CCR, Title 22 CCR, ATHS, Occupational Exposure Limits, Ozone Depleting Compounds, Precursor Chemicals, SCAQMD, California - No Significant Risk Level - **No information found.** None of the chemicals are on Prop 65 lists

CAS# 1309-37-1 **OEL-TWA:** Alaska, Idaho, Indiana, Michigan, Minnesota, New York, North Carolina, Oregon, Tennessee, Vermont =10 mg/m³, Hawaii, Washington= 5 mg/m³ **OEL- STEL** Hawaii, Washington= 10 mg/m³ ; Massachusetts, New Jersey, Pennsylvania = RTK **California** -Title 8 CCR=yes, Prop 65, Title 22 CCR, ATHS, Occupational Exposure Limits, Ozone Depleting Compounds, Precursor Chemicals, SCAQMD, California - No Significant Risk Level - **No information found.** None of the chemicals are on Prop 65 lists

CAS# 1305-78-8

CAS# 1309-48-4

Advisory Agencies/Africa/ Asia-Pacific/Europe Non-EU /EU Member Countries/Latin America and Caribbean/ Middle East/Government Inventory Lists

CAS# 63231-67-4

AICS	New Zealand	Korea	ENCS	China	Belgium	PICCS	Malaysia	Singapore	France	Germany VwVws	Latvia	Lithuania	EC	EINECS
yes	yes	yes	yes	yes	no	yes	no	no	no	no	no	no	no	N/A

CAS#1344-28-1

AICS	New Zealand	Korea	ENCS	China	Belgium	PICCS	Malaysia	Singapore	France	Germany VwVws	Latvia	Lithuania	EC	EINECS
yes	yes	yes	yes	yes	no	yes	no	no	no	no	no	no	no	215-691-6

CAS# 1309-37-1

AICS	New Zealand	Korea	ENCS	China	Belgium	PICCS	Malaysia	Singapore	France	Germany VwVws	Latvia	Lithuania	EC	EINECS
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes	no	215-168-2

CAS# 1305-78-8

AICS	New Zealand	Korea	ENCS	China	Belgium	PICCS	Malaysia	Singapore	France	Germany VwVws	Latvia	Lithuania	EC	EINECS
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	low	yes	yes	no	215-138-9

CAS# 1309-48-4

AICS	New Zealand	Korea	ENCS	China	Belgium	PICCS	Malaysia	Singapore	France	Germany VwVws	Latvia	Lithuania	EC	EINECS
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes	no	215-171-9

OCCUPATIONAL EXPOSURE LIMITS

CAS#63231-67-4 **OEL-TWA:** AUSTRALIA 10 mg/m³

CAS#1344-28-1 **ICCA, OECD** – yes; **OEL-TWA:** AUSTRALIA, EGYPT, SOUTH AFRICA, HONG-KONG, INDONESIA, KOREA, MALAYSIA, NEWZEALAND, SINGAPORE, ICELAND, NORWAY, AUSTRIA, BELGIUM, ESTONIA, FRANCE, GREECE, IRELAND, IRELAND, PORTUGAL, SPAIN, ARGENTINA, COLOMBIA, MEXICO, PERU, VENEZUELA, GCC, ISRAEL =10mg/m³; **PC-STEL:** CHINA 8 mg/m³, SWITZERLAND 24 mg/m³, HUNGARY 6 mg/m³, POLAND 16 mg/m³, ROMANIA 1.2PPM; **OEL-TWA:** CHECK 0.1 mg/m³, DENMARK 5 mg/m³, JAPAN 0.5 mg/m³, ROMANIA 0.5PPM, RUSSIA 6 mg/m³, LATVIA 6 mg/m³, LITHUANIA 5 mg/m³, SLOVAK 1.5 mg/m³; **OEL-TLV:** SWEDEN 5 mg/m³

CAS# 1309-37-1 **OEL-TWA (fume)** Egypt, AUSTRALIA, BELGIUM, FINLAND, FRANCE, POLAND, SWEDEN, SWITZERLAND, THE NETHERLANDS, UNITED KINGDOM= 5 mg/m³, DENMARK 3.5 mg/m³, GERMANY 6 mg/m³, PHILIPPINES, THAILAND, TURKEY= 10 mg/m³; **OEL- STEL** UNITED KINGDOM, Austria=10 mg/m³

CAS# 1305-78-8 **OEL-TWA** AUSTRALIA, BELGIUM, DENMARK, FINLAND, FRANCE, INDIA, POLAND, SWEDEN, UNITED KINGDOM=2 mg/m³, AUSTRIA, GERMANY THE NETHERLANDS PHILIPPINES TURKEY=5 mg/m³

CAS# 1309-48-4 **OEL-TWA** Egypt, AUSTRALIA, BELGIUM, FRANCE, THE NETHERLANDS, UNITED KINGDOM=10 mg/m³, DENMARK, GERMANY, SWITZERLAND=6 mg/m³, HUNGARY 5mg/m³, PHILIPPINES, POLAND, TURKEY= 15mg/m³, Iceland =3.5 mg/m³, Norway=3 mg/m³ **OEL- STEL** HUNGARY 10 mg/m³ RUSSIA 5 mg/m³

SWITZERLAND 12 mg/m³, Norway=6 mg/m³

Canada Federal/Provincial Government

CAS# 63231-67-4 **OEL-TWA:** QUEBEC= 6 mg/m³

CAS#1344-28-1 **OEL-TWA:** ALBERTA, BRITISH COLUMBIA, NEW BRUNSWICK, NORTHWEST TERRITORIES, NUNAVUT, ONTARIO, QUEBEC, SASKATCHEWAN, YUKON=10mg/m³; **OEL-STEL:** NORTHWEST TERRITORIES, NUNAVUT, SASKATCHEWAN, YUKON =20mg/m³

CAS# 1309-37-1 **OEL-TWA:** ALBERTA, British Columbia, Manitoba, New Brunswick, New Foundland, Northwest Territories, Nova Scotia, Nunavut, Ontario, Québec, Saskatchewan, Yukon= 5 mg/m³; **OEL-STEL:** British Columbia, Saskatchewan, Yukon =10 mg/m³,

CAS# 1305-78-8 **OEL-TWA:** Alberta, British Columbia, Manitoba, New Brunswick, New Foundland, Northwest Territories, Nova Scotia, Nunavut, Ontario, Quebec, Saskatchewan, Yukon 2 mg/m³; **OEL-STEL:** Northwest Territories, Nunavut, Saskatchewan, Yukon 4 mg/m³

CAS# 1309-48-4 **OEL-TWA:** Alberta, British Columbia, Manitoba, New Brunswick, New Foundland, Northwest Territories, Nova Scotia, Nunavut, Ontario, Quebec, Saskatchewan, Yukon=10 mg/m³ **OEL-STEL** British Columbia, Yukon=10 mg/m³, Northwest Territories, Nunavut, Saskatchewan= 20 mg/m³

European Union Directives CAS# 63231-67-4

793/93/EEC	1907/2006 – REACH
no	no

European Union Directives CAS#1344-28-1

793/93/EEC	1907/2006 – REACH
yes	no

European Union Directives CAS# 1309-37-1

793/93/EEC	1907/2006 – REACH
yes	no

Canada Federal/Provincial Government CAS# 63231-67-4

CEPA	NPRI	DSL	NDSL	DWQ	WHMIS
no	no	yes	no	no	no

Canada Federal/Provincial Government CAS#1344-28-1

CEPA	NPRI	DSL	NDSL	DWQ	WHMIS
yes	no	yes	no	no	no

Canada Federal/Provincial Government CAS# 1309-37-1

CEPA	NPRI	DSL	NDSL	Health Canada	DWQ	WHMIS
no	no	yes	no	yes	no	no

SECTION 15 - REGULATORY INFORMATION (continued)**European Union Directives CAS# 1305-78-8**

793/93/EEC	1907/2006 – REACH
yes	yes

European Union Directives CAS# 1309-48-4

793/93/EEC	1907/2006 – REACH
yes	no

Canada Federal/Provincial Government CAS# 1305-78-8

CEPA	NPRI	DSL	NDSL	DWQ	WHMIS
no	no	yes	no	no	yes

Canada Federal/Provincial Government CAS# 1309-48-4

CEPA	NPRI	DSL	NDSL	DWQ	WHMIS
no	no	yes	no	no	no

WHMIS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

SECTION 16 - OTHER INFORMATION

Revision: 05

Date prepared: October 1, 2008

ABBREVIATIONS

EU: European Union

DOT: Department of Transportation

NIOSH: National Institute for Occupational Safety and Health

ACGIH: American Conference of Governmental Industrial Hygienists

IATA: International Air Transport Association

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

IARC: International Agency for Research on Cancer

This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from Thermo Fisher Scientific, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from Thermo Fisher Scientific, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.

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