

400

## ITEM: 5VD07 - Dryer Silica Gel

PICK REQ: 1116916156

## MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: A8777

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A8777

Associated Grainger Item: 5VD07 - Dryer Silica Gel

## MATERIAL SAFETY DATA SHEET

DESICCANT: SG-37, BLUE INDICATING GEL

REVISION DATE: 10/07/05

SUPERSEDES: 08/23/02

PRODUCT NAME: SG-37, BLUE INDICATING GEL

COMPANY IDENTIFICATION:

SUPPLIERS NAME: FLAIR CORPORATION

ADDRESS:  
4647 S.W. 40TH AVENUE  
OCALA, FLORIDA 34474-5799 USA

EMERGENCY TELEPHONE NO.: 352-207-6684

FOR PRODUCT INFORMATION: 352-237-1220

## 1. CHEMICAL PRODUCT AND IDENTIFICATION

TRADE NAMES: BLUE SILICA GEL

SYNONYMS: SILICA, AMORPHOUS: SILICA, PRECIPITATED AND GEL (CAS NO. 112926-00-8) (OSHA)

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	%	HAZARDOUS	R PHRASES
SILICA GEL (SiO <sub>2</sub> )	63231-67-4	>97%	YES	
COBALT CHLORIDE	7646-79-9	<3%	YES	R22, R36, R42/43

## 3. HAZARDS IDENTIFICATION

## EMERGENCY OVERVIEW:

SAFETY DATA RATING:  
HEALTH RATING: -MODERATE  
FIRE RATING: -NONE  
REACTIVITY RATING: -NONE  
CONTACT RATING: -SLIGHTLAB PROTECTIVE EQUIPMENT:  
GOGGLES, LAB COAT, VENT HOOD, PROPER GLOVESSTORAGE COLOR CODE:  
ORANGE (GENERAL STORAGE)POTENTIAL HEALTH EFFECTS:  
THIS PRODUCT CONTAINS SYNTHETIC AMORPHOUS SILICA; NOT TO BE CONFUSED WITH CRYSTALLINE SILICA SUCH AS QUARTZ, CRISTOBALITE OR TRIDYMITTE OR WITH DIATOMACEOUS EARTH OR OTHER NATURALLY OCCURRING FORMS OF AMORPHOUS SILICA THAT FREQUENTLY CONTAIN CRYSTALLINE FORMS.INHALATION:  
MAY CAUSE DRYNESS AND IRRITATION TO MUCOUS MEMBRANES, NOSE, AND THROAT.  
SYMPTOMS MAY INCLUDE COUGHING, SORE THROAT AND WHEEZING.INGESTION:  
NO ADVERSE EFFECTS EXPECTED.SKIN CONTACT:  
MAY CAUSE IRRITATION WITH DRYNESS AND ABRASION.EYE CONTACT:  
MAY CAUSE IRRITATION, REDNESS AND PAIN.CHRONIC EXPOSURE:  
REPEATED EXPOSURE MAY CAUSE SYMPTOMS SIMILAR TO THOSE LISTED FOR ACUTE EFFECTS. SYNTHETIC AMORPHOUS SILICA DOES NOT PRODUCE SILICOSIS. PROLONGED EXPOSURE TO COBALT HAS BEEN SHOWN TO CAUSE CANCER IN LABORATORY ANIMALS.AGGRAVATION OF PRE-EXISTING CONDITION:  
NO INFORMATION FOUND.

## 4. FIRST AID MEASURES

INHALATION:  
REMOVE VICTIM TO FRESH AIR. GET MEDICAL ATTENTION FOR ANY BREATHING DIFFICULTY.SKIN CONTACT:  
IMMEDIATELY FLUSH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE REUSE. THOROUGHLY CLEAN SHOES BEFORE REUSE. GET MEDICAL ATTENTION IF SKIN IRRITATION DEVELOPS.EYE CONTACT:  
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, LIFTING LOWER AND UPPER EYELIDS OCCASIONALLY. GET MEDICAL ATTENTION IF EYE IRRITATION PERSISTS.INGESTION:  
GIVE SEVERAL GLASSES OF WATER TO DRINK TO DILUTE. IF LARGE AMOUNTS WERE SWALLOWED, GET MEDICAL ADVICE.

## 5. FIRE FIGHTING MEASURES

FIRE:  
NOT CONSIDERED TO BE A FIRE HAZARD.EXPLOSION:  
NOT CONSIDERED TO BE AN EXPLOSION HAZARD.FIRE EXTINGUISHING MEDIA:  
USE ANY MEANS SUITABLE FOR EXTINGUISHING SURROUNDING FIRE.SPECIAL INFORMATION:  
USE PROTECTIVE CLOTHING AND BREATHING EQUIPMENT APPROPRIATE FOR THE SURROUNDING FIRE.

## 6. ACCIDENTAL RELEASE MEASURES

PERSON-RELATED SAFETY PRECAUTIONS:  
VENTILATE AREA OF LEAK OR SPILL. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.MEASURES FOR ENVIRONMENTAL PROTECTION:  
SWEEP UP AND CONTAINERIZE FOR RECLAMATION OR DISPOSAL.MEASURES FOR CLEANING/COLLECTING:  
VACUUMING OR WET SWEEPING MAY BE USED TO AVOID DUST DISPERSAL. REGULATIONS REQUIRE REPORTING SPILLS AND RELEASES TO SOIL, WATER AND AIR IN EXCESS OF REPORTABLE QUANTITIES.ADDITIONAL INFORMATION:  
SEE SECTION 7 FOR INFORMATION ON SAFE HANDLING.  
SEE SECTION 8 FOR INFORMATION ON PERSONAL PROTECTION EQUIPMENT.  
SEE SECTION 13 FOR DISPOSAL INFORMATION.

## 7. HANDLING AND STORAGE

HANDLING:  
WHEN POURING INTO A CONTAINER OF FLAMMABLE LIQUID, GROUND BOTH CONTAINERS ELECTRICALLY TO PREVENT A STATIC ELECTRIC SPARK. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTY SINCE THEY RETAIN PRODUCT RESIDUES (DUST, SOLIDS). OBSERVE ALL WARNINGS AND PRECAUTIONS LISTED FOR THE PRODUCT.STORAGE:  
KEEP IN A TIGHTLY CLOSED CONTAINER, STORED IN A COOL, DRY, VENTILATED AREA AND LABELED ACCORDINGLY. PROTECT AGAINST PHYSICAL DAMAGE.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

## AIRBORNE EXPOSURE LIMITS:

SILICA (SYNTHETIC, AMORPHOUS):  
OSHA PERMISSIBLE EXPOSURE LIMIT (PEL):  
80 (%SiO<sub>2</sub>) MG/M<sup>3</sup> (TWA) FOR AMORPHOUS SILICA, INCLUDING NATURAL DIATOMACEOUS EARTH  
ACGIH THRESHOLD LIMIT VALUE (TLV):  
10 MG/M<sup>3</sup> (TWA) FOR AMORPHOUS PRECIPITATED SILICA AND AMORPHOUS SILICA GELFOR INORGANIC COBALT COMPONENTS:  
ACGIH THRESHOLD LIMIT VALUE (TLV):  
0.02 MG/M<sup>3</sup> (TWA) AS COBALT; A3: ANIMAL CARCINOGEN.VENTILATION SYSTEMS:  
A SYSTEM OF LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOSURES BELOW THE AIRBORNE EXPOSURE LIMITS. LOCAL EXHAUST VENTILATION IS GENERALLY PREFERRED BECAUSE IT CAN CONTROL THE EMISSIONS OF THE CONTAMINANT AT ITS SOURCE, PREVENTING DISPERSION OF IT INTO THE GENERAL WORK AREA.PERSONAL RESPIRATORS:  
IF THE EXPOSURE LIMIT IS EXCEEDED, A HALF-FACE DUST/MIST RESPIRATOR MUST BE WORN SUITABLE FOR THE EXPOSURE LIMIT OR THE MAXIMUM USE CONCENTRATION SPECIFIED BY THE APPROPRIATE REGULATORY AGENCY OR RESPIRATOR SUPPLIER, WHICHEVER IS LOWEST.WARNING:  
AIR PURIFYING RESPIRATORS DO NOT PROTECT WORKERS IN OXYGEN-DEFICIENT ATMOSPHERES. RESPIRATORS MUST MEET THE REQUIREMENTS OF EUROPEAN STANDARD EN149 FF3C. SUITABLE FOR USE UNDER COSHH, CAW, CLAW AND IRR.SKIN PROTECTION:  
WEAR PROTECTIVE GLOVES AND CLEAN BODY-COVERING CLOTHING.EYE PROTECTION:  
USE CHEMICAL SAFETY GOGGLES. MAINTAIN EYE WASH FOUNTAIN.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: BLUE CRYSTALS.

ODOR: ODORLESS.

SOLUBILITY:  
SILICA GEL BASE IS INSOLUBLE IN WATER; COBALT CHLORIDE MAY LEACH OUT.

SPECIFIC GRAVITY: 2.1

pH: 5.5-9.0 (5% SLURRY)

VOLATILES BY VOLUME @ 21 DEG. C (70 DEG. F): 0

MELTING POINT / MELTING RANGE: NO INFORMATION FOUND

VAPOR DENSITY (AIR=1): NO INFORMATION FOUND

VAPOR PRESSURE (MM HG): NO INFORMATION FOUND

EVAPORATION RATE (BUAC=1): NO INFORMATION FOUND

## 10. STABILITY AND REACTIVITY

STABILITY:  
STABLE UNDER ORDINARY CONDITIONS OF USE AND STORAGE.

HAZARDOUS DECOMPOSITION PRODUCTS:  
OXIDES OF CARBON AND SILICONE MAY BE FORMED WHEN HEATED TO DECOMPOSITION.

HAZARDOUS POLYMERIZATION:  
WILL NOT OCCUR.

INCOMPATIBILITY:  
REACTS WITH HYDROGEN FLUORIDE, FLUORINE, OXYGEN DIFLUORIDE,  
CHLORINE TRIFLUORIDE, STRONG ACIDS, STRONG BASES, AND OXIDIZERS.

CONDITIONS TO AVOID:  
MOISTURE, EXTREME HEAT, AND INCOMPATIBLES.

## 11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:  
NO LD50/LC50 INFORMATION FOUND RELATING TO NORMAL ROUTES  
OF OCCUPATIONAL EXPOSURE.

CARCINOGENICITY:  
COBALT AND ITS COMPOUNDS HAVE BEEN SHOWN TO CAUSE CANCER IN LABORATORY  
ANIMALS.

## 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:  
FOR SILICA GEL (SYNTHETIC AMORPHOUS):  
WHEN RELEASED INTO THE SOIL, THIS MATERIAL IS NOT EXPECTED TO BIODEGRADE.  
WHEN RELEASED INTO WATER, THIS MATERIAL IS NOT EXPECTED TO BIODEGRADE.

ENVIRONMENTAL TOXICITY:  
FOR SILICA GEL (SYNTHETIC AMORPHOUS):  
THIS MATERIAL IS NOT EXPECTED TO BE TOXIC TO AQUATIC LIFE.

## 13. DISPOSAL CONSIDERATIONS

RECOMMENDATION:  
WHATEVER CANNOT BE SAVED FOR RECOVERY OR RECYCLING SHOULD BE MANAGED IN AN  
APPROPRIATE AND APPROVED WASTE DISPOSAL FACILITY. PROCESSING, USE OR  
CONTAMINATION OF THIS PRODUCT MAY CHANGE THE WASTE MANAGEMENT OPTIONS. STATE  
AND LOCAL DISPOSAL REGULATIONS MAY DIFFER FROM FEDERAL DISPOSAL REGULATIONS.  
DISPOSE OF CONTAINER AND UNUSED CONTENTS IN ACCORDANCE WITH FEDERAL, STATE  
AND LOCAL REQUIREMENTS.

## 14. TRANSPORT INFORMATION

TRANSPORT/ADDITIONAL INFORMATION:  
NOT REGULATED.

## 15. REGULATORY INFORMATION

SARA:

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCES):  
NONE OF THE INGREDIENTS ARE LISTED.

SECTION 313 (SPECIFIC TOXIC CHEMICAL LISTINGS):  
NONE OF THE INGREDIENTS ARE LISTED.

TSCA (TOXIC SUBSTANCES CONTROL ACT):  
ALL INGREDIENTS ARE LISTED.

POISON SCHEDULE:  
NO INFORMATION FOUND.

EC:  
NONE OF THE INGREDIENTS ARE LISTED.

TLV (THRESHOLD LIMIT VALUE ESTABLISHED BY ACGIH):  
NONE OF THE INGREDIENTS ARE LISTED

CERCLA REPORTABLE QUANTITY:  
NONE OF THE INGREDIENTS ARE LISTED.

RCRA (RESOURCE CONSERVATION AND RECOVERY ACT):  
NONE OF THE INGREDIENTS ARE LISTED.

EUROPEAN EINECS:  
ALL INGREDIENTS ARE LISTED.

EC CLASSIFICATION:  
CARCINOGENIC

R PHRASES:  
R49: MAY CAUSE CANCER BY INHALATION  
R42/43: MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT

S PHRASES:  
S22: DO NOT BREATHE DUST.  
S53: AVOID EXPOSURE--OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.  
S45: IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
S60: THIS MATERIAL AND/OR ITS CONTAINER MUST BE DISPOSED OF AS HAZARDOUS  
WASTE.  
S2: KEEP OUT OF REACH OF CHILDREN.

## 16. OTHER INFORMATION

MSDS STATUS: CHANGES IN ALL SECTIONS.

SUPERSEDES: 8/23/2002

LABEL HAZARD WARNING: TOXIC

LABEL PRECAUTIONS:  
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.  
AVOID BREATHING DUST.  
KEEP CONTAINER CLOSED.

USE WITH ADEQUATE VENTILATION.  
WASH THOROUGHLY AFTER HANDLING.

LABEL FIRST AID:  
IF INHALED: REMOVE TO FRESH AIR. GET MEDICAL ATTENTION FOR ANY BREATHING  
DIFFICULTY.

IN CASE OF CONTACT:  
IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.  
GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS.

MATERIAL SAFETY DATA SHEET

ATTENTION: PLANT MANAGER/SAFETY DIRECTOR

THIS MSDS SUPERSEDES ALL PRIOR DATA SHEETS RECEIVED FOR THIS PRODUCT. WE  
URGE YOU TO STUDY IT CAREFULLY. THIS IS PROVIDED WITH EACH CONTAINER AS  
OUR WAY OF COMMUNICATING HEALTH, SAFETY, AND ENVIRONMENTAL PROTECTION  
INFORMATION TO OUR CUSTOMERS.

THIS INFORMATION IS PROVIDED TO ENSURE SAFE HANDLING AND STORAGE OF OUR  
PRODUCTS IN ACCORDANCE WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR  
1910.1200. THE INFORMATION CONTAINED IN THIS MSDS MUST BE PASSED ON TO ALL  
EMPLOYEES IN YOUR FIRM THAT HANDLE AND/OR BECOME INVOLVED IN THE  
IMPLEMENTATION OR CONTROL OF OPERATIONS INVOLVING USE OF THE PRODUCT. WE  
STRONGLY URGE YOU TO FORWARD THIS MSDS TO ALL PARTIES THAT HAVE A NEED TO  
KNOW THE INFORMATION CONTAINED HEREIN!

### LEGEND:

ACGIH: AMERICAN CONFERENCE OF GOVERNMENT INDUSTRIAL HYGIENISTS  
AICS: AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES  
CAS: CHEMICAL ABSTRACT SERVICES  
CERCLA:  
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT  
CFR: CODE OF FEDERAL REGULATIONS  
DOT: DEPARTMENT OF TRANSPORTATION  
DSL: DOMESTIC SUBSTANCES LIST (CANADA)  
ECCOIN: EUROPEAN CORE INVENTORY  
EPA: ENVIRONMENTAL PROTECTION AGENCY  
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER  
LC50: LETHAL CONCENTRATION (50% KILL)  
LCLO: LOWEST PUBLISHED LETHAL CONCENTRATION  
LD50: LETHAL DOSE (50% KILL)  
LDLO: LOWEST PUBLISHED LETHAL DOSE  
NFPA: NATIONAL FIRE PROTECTION AGENCY  
NIOSH: NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH  
NTP: NATIONAL TOXICOLOGY PROGRAM  
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
PEL: PERMISSIBLE EXPOSURE LIMIT  
PIN: PRODUCT IDENTIFICATION NUMBER  
RCRA: RESOURCE CONSERVATION AND RECOVERY ACT  
SARA: SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT  
STEL: SHORT TERM EXPOSURE LIMIT  
TCLP: TOXIC CHEMICALS LEACHATE PROGRAM  
TDG: TRANSPORTATION OF DANGEROUS GOODS  
TLV: THRESHOLD LIMIT VALUE  
TSCA: TOXIC SUBSTANCES CONTROL ACT  
TWA: TIME WEIGHTED AVERAGE

ATM: ATMOSPHERE  
CM: CENTIMETER  
G, GM: GRAM  
IN: INCH  
KG: KILOGRAM  
LB: POUND  
M: METER  
MG: MILLIGRAM  
ML, ML: MILLILITER  
MM: MILLIMETER  
N.O.S.: NOT OTHERWISE SPECIFIED  
PPB: PARTS PER BILLION  
PPM: PARTS PER MILLION  
PSIA: POUNDS PER SQUARE INCH  
MICRO U: MICRON  
MICRO g: MICROGRAM

THE INFORMATION CONTAINED HEREIN IS BASED UPON DATA CONSIDERED TRUE AND  
ACCURATE. HOWEVER, WE MAKE NO WARRANTIES (EXPRESS OR IMPLIED) AS TO THE  
ACCURACY OR ADEQUACY OF THE INFORMATION CONTAINED HEREIN OR THE RESULTS TO  
BE OBTAINED FROM THE USE THEREOF. THIS INFORMATION IS OFFERED SOLELY FOR THE  
USER'S CONSIDERATION, INVESTIGATION AND VERIFICATION. SINCE THE USE AND  
CONDITIONS OF USE OF THIS INFORMATION AND THE MATERIAL DESCRIBED HEREIN ARE  
NOT WITHIN OUR CONTROL, WE ASSUME NO RESPONSIBILITY FOR INJURY TO THE USER  
OR THIRD PERSONS. THE MATERIAL DESCRIBED HEREIN IS SOLD ONLY PURSUANT TO OUR  
TERMS AND CONDITIONS OF SALE, INCLUDING THOSE LIMITING WARRANTIES AND  
REMEDIES CONTAINED THEREIN. IT IS THE RESPONSIBILITY OF THE USER TO  
DETERMINE WHETHER ANY USE OF THIS DATA AND INFORMATION IS IN ACCORDANCE WITH  
APPLICABLE FEDERAL, STATE OR LOCAL LAWS AND REGULATIONS.

## ITEM: 5VD07 - Dryer Silica Gel

PICK REQ: 1116916156

## MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B2820

**This MSDS should be attached or kept with the respective product with which it is associated.**

MATERIAL SAFETY DATA SHEET - B2820

Associated Grainger Item: 5VD07 - Dryer Silica Gel

DESICCARE

MATERIAL SAFETY DATA SHEET

SILICA GEL

REVISION DATE: 06/29/06

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMMON NAME: SILICA GEL, Kieselgel; DAISO GEL; AMORPHOUS SILICA

CHEMICAL NAME: SILICA GEL, SILICON DIOXIDE

CAS NO: 63231-67-4

PRODUCT USE: DESICCANT

SUPPLIER:  
DESICCARE INC  
3400 POMONA BOULEVARD  
POMONA, CA 91768

1-909-444-8272

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	WEIGHT % IN PRODUCT	NOTES
SILICA GEL	99-100 %	NONE

## 3. HAZARDS IDENTIFICATION

COLOR: CLEAR GRANULES OR SPHERICAL BEADS

FORM: GRANULES OR SPHERICAL BEADS

ODOR: NONE

FLASH POINT, DEG. C: NOT APPLICABLE

POTENTIAL HEALTH EFFECTS:

INHALATION:  
MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT. SYMPTOMS MAY INCLUDE  
DRYNESS, SORE THROAT AND WHEEZING.

INGESTION: NO ADVERSE HEALTH EFFECTS ARE EXPECTED.

SKIN CONTACT: MAY CAUSE DRYNESS AND MECHANICAL IRRITATION.

EYE CONTACT: LARGE AMOUNTS OF DUST MAY CAUSE IRRITATION.

CARCINOGENICITY:

CHRONIC HEALTH HAZARDS: SILICA GEL DOES NOT PRODUCE SILICOSIS

AGGRAVATED MEDICAL CONDITIONS: NO INFORMATION FOUND.

## 4. FIRST AID MEASURES

INHALATION: MOVE PERSON TO FRESH AIR. SEEK MEDICAL ATTENTION IF NECESSARY.

INGESTION: IF LARGE QUANTITIES ARE INGESTED, SEEK MEDICAL ADVICE

SKIN CONTACT:  
FLUSH SKIN WITH WATER. IF IRRITATION PERSISTS SEEK MEDICAL ATTENTIONEYE CONTACT:  
FLUSH EYES WITH WATER FOR 15 MINUTES. IF IRRITATION PERSISTS SEEK MEDICAL  
ATTENTION.

## 5. FIRE FIGHTING MEASURES

FLASH POINT, DEG. C: NOT APPLICABLE

AUTOIGNITION TEMPERATURE DEG. C: NOT DETERMINED

LOWER EXPLOSIVE LIMIT, %: NOT DETERMINED  
UPPER EXPLOSIVE LIMIT, %: NOT DETERMINED

EXTINGUISHING MEDIA: USE MEDIA APPROPRIATE FOR SURROUNDING FIRE.

FIRE FIGHTING PROCEDURES:  
POSITIVE PRESSURE, SELF CONTAINED BREATHING APPARATUS. PROTECTIVE  
CLOTHING.

FIRE AND EXPLOSION HAZARDS: NOT A FIRE OR EXPLOSION HAZARD.

## 6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES:  
CONTAIN SPILLAGE. SCOOP OR VACUUM INTO A CONTAINER FOR RECLAMATION OR  
DISPOSAL. AVOID DUSTING. VACUUMING OR WET SWEEPING MAY BE USED TO AVOID  
DUST.

## 7. HANDLING AND STORAGE

KEEP CONTAINER CLOSED.

STORE IN COOL, DRY LOCATION.  
AVOID GENERATING OR BREATHING DUST.  
USE ONLY WITH ADEQUATE VENTILATION.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT	WEIGHT % IN PRODUCT	OSHA PEL	ACGIH TLV
SILICA GEL	100	80 MG/M3	10 MG/M3

PERSONAL PROTECTIVE EQUIPMENT: SAFETY GLASSES. WEAR SUITABLE GLOVES

RESPIRATORY PROTECTION:  
USE A NIOSH/MSHA APPROVED RESPIRATOR AS NECESSARY TO PROTECT FROM DUST.

VENTILATION: GENERAL VENTILATION. LOCAL EXHAUST VENTILATION IS RECOMMENDED.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: GRANULES OR SPHERICAL BEADS

COLOR: WHITE, CLEAR

ODOR: NONE

SPECIFIC GRAVITY: 2.1

SOLUBILITY (WATER): NEGLIGIBLE

pH: 3-8 (5% SLURRY)

MELTING POINT: 1610 DEG. C

BOILING POINT: 2230 DEG. C

## 10. STABILITY AND REACTIVITY

STABILITY DATA: STABLE

CONDITIONS/HAZARDS TO AVOID: NONE ANTICIPATED

INCOMPATIBILITY:  
STRONG ACIDS, STRONG BASES AND OXIDIZERS. FLUORIDE COMPOUNDS.HAZARDOUS DECOMPOSITION PRODUCTS:  
OXIDES OF CARBON AND SILICON MAY BE FORMED WHEN HEATED TO DECOMPOSITION  
TEMPERATURE.

POLYMERIZATION: NONE ANTICIPATED

POLYMERIZATION-AVOID: NONE ANTICIPATED

## 11. TOXICOLOGICAL INFORMATION

NO TOXICOLOGICAL DATA IS AVAILABLE

## 12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE.

## 13. DISPOSAL CONSIDERATIONS

US EPA WASTE NUMBER: NOT REGULATED

DISPOSAL OF WASTE METHOD:  
FEDERAL, STATE AND LOCAL DISPOSAL LAWS WILL DETERMINE THE PROPER WASTE  
DISPOSAL PROCEDURE.

## 14. TRANSPORT INFORMATION

INTERNATIONAL TRANSPORT REGULATIONS:  
UN/PIN NUMBER: NOT REGULATEDUS TRANSPORTATION REGULATIONS:  
DOT CLASSIFICATION: NOT REGULATEDCANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG):  
TDG CLASSIFICATION: NOT REGULATED.

## 15. REGULATORY INFORMATION

THIS PRODUCT OR ITS' INGREDIENTS ARE LISTED ON OR COMPLIANT WITH THE TSCA  
INVENTORY

## 16. OTHER INFORMATION

NFPA CLASSIFICATION:  
HEALTH 1  
FLAMMABILITY 0  
INSTABILITY 0  
SPECIAL HAZARDSTHIS INFORMATION IS BASED UPON TECHNICAL INFORMATION BELIEVED TO BE  
RELIABLE. IT IS SUBJECT TO REVISION AS ADDITIONAL KNOWLEDGE AND EXPERIENCE  
IS GAINED.

# ITEM: 5Z610 - Dryer Desiccant

PICK REQ: 1116916156

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B3212

**This MSDS should be attached or kept with the respective product with which it is associated.**

MATERIAL SAFETY DATA SHEET - B3212

Associated Grainger Item: 5Z610 - Dryer Desiccant

GRACE DAVISON

MATERIAL SAFETY DATA SHEET

02/21/2007

REVIEWED ON: 02/21/2007

## 1 IDENTIFICATION OF SUBSTANCE

### PRODUCT DETAILS:

TRADE NAME: GRADE 47(R\*)

ARTICLE NUMBER: 5101542, 8600221

MANUFACTURER/SUPPLIER:  
GRACE DAVISON  
W.R. GRACE & CO.-CONN  
7500 GRACE DR  
COLUMBIA, MD 21044

INFORMATION DEPARTMENT:  
HEALTH AND SAFETY (9 AM TO 5 PM-EST): 1-410-531-4000

EMERGENCY INFORMATION:  
TRANSPORTATION EMERGENCY (24 HR):  
CHEMTREC: 1-800-424-9300

OTHER EMERGENCIES (24 HR): 1-410-531-4000

## 2 DATA ON COMPONENTS

CAS NO. &	LIST OF COMPONENTS
7631-86-9	AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED
7646-79-9	COBALT CHLORIDE CARC. CAT. 2; T, Xi, N; R 49-22-42/43-50/53

ADDITIONAL INFORMATION:  
FOR THE WORDING OF THE COMPONENT RISK PHRASES REFER TO SECTION 16.

## 3 HAZARDS IDENTIFICATION

HAZARD DESCRIPTION:  
T: TOXIC

INFORMATION PERTAINING TO PARTICULAR DANGERS FOR MAN AND ENVIRONMENT:  
THE PRODUCT HAS TO BE LABELLED DUE TO THE CALCULATION PROCEDURE OF THE  
"GENERAL CLASSIFICATION GUIDELINE FOR PREPARATIONS OF THE EUROPEAN UNION"  
IN THE LATEST VALID VERSION.

R 49: MAY CAUSE CANCER BY INHALATION.

R 52/53:  
HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE  
AQUATIC ENVIRONMENT

CLASSIFICATION SYSTEM:  
THE CLASSIFICATION WAS MADE ACCORDING TO THE LATEST EDITIONS OF  
INTERNATIONAL SUBSTANCES LISTS, AND EXPANDED UPON FROM COMPANY AND  
LITERATURE DATA.

NFPA RATINGS (SCALE 0 - 4):  
HEALTH 2  
FIRE 0  
REACTIVITY 0

HMIS-RATINGS (SCALE 0 - 4):  
HEALTH \*2  
FIRE 0  
REACTIVITY 0

CANADIAN HAZARD SYMBOL:  
D1 - MATERIALS CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS  
D2 - MATERIALS CAUSING OTHER TOXIC EFFECTS

WHMIS CLASSIFICATION:  
D1B - TOXIC MATERIAL CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS  
D2A - VERY TOXIC MATERIAL CAUSING OTHER TOXIC EFFECTS

## 4 FIRST AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR; CONSULT DOCTOR IN CASE OF COMPLAINTS.

AFTER SKIN CONTACT:  
GENERALLY THE PRODUCT DOES NOT IRRITATE THE SKIN.  
IMMEDIATELY WASH WITH WATER AND SOAP AND RINSE THOROUGHLY.  
IF SKIN IRRITATION OCCURS, CONSULT A DOCTOR.

AFTER EYE CONTACT:  
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES,  
LIFTING LOWER AND UPPER EYELIDS OCCASIONALLY. IF SYMPTOMS OCCUR, CONSULT A

DOCTOR.

AFTER SWALLOWING:  
IF LARGE AMOUNTS ARE SWALLOWED, WASH MOUTH OUT WITH WATER. GET MEDICAL AID  
IF IRRITATION OR SYMPTOMS OCCUR.

## 5 FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING AGENTS:  
CO2, EXTINGUISHING POWDER OR WATER SPRAY. FIGHT LARGER FIRE WITH ALCOHOL  
RESISTANT FOAM.  
USE FIRE FIGHTING MEASURES THAT SUIT THE ENVIRONMENT.

PROTECTIVE EQUIPMENT: WEAR PROTECTIVE EQUIPMENT.

ADDITIONAL INFORMATION:  
DISPOSE OF FIRE DEBRIS AND CONTAMINATED FIRE FIGHTING WATER IN ACCORDANCE  
WITH OFFICIAL REGULATIONS.

## 6 ACCIDENTAL RELEASE MEASURES

PERSON-RELATED SAFETY PRECAUTIONS:  
AVOID FORMATION OF DUST.  
WEAR PROTECTIVE CLOTHING.

MEASURES FOR ENVIRONMENTAL PROTECTION:  
SWEEP UP AND CONTAINERIZE FOR RECLAMATION OR DISPOSAL.  
INFORM RESPECTIVE AUTHORITIES IN CASE OF SEEPAGE INTO WATER COURSE OR  
SEWAGE SYSTEM.

MEASURES FOR CLEANING/COLLECTING:  
AVOID FORMATION OF DUST.  
DISPOSE OF THE COLLECTED MATERIAL ACCORDING TO REGULATIONS.  
DISPOSE CONTAMINATED MATERIAL AS WASTE ACCORDING TO ITEM 13.  
ENSURE ADEQUATE VENTILATION.

ADDITIONAL INFORMATION:  
SEE SECTION 7 FOR INFORMATION ON SAFE HANDLING.  
SEE SECTION 8 FOR INFORMATION ON PERSONAL PROTECTION EQUIPMENT.  
SEE SECTION 13 FOR DISPOSAL INFORMATION.

## 7 HANDLING AND STORAGE

### HANDLING:

INFORMATION FOR SAFE HANDLING:  
ENSURE GOOD VENTILATION/EXHAUSTION AT THE WORKPLACE.  
OPEN AND HANDLE RECEPTACLE WITH CARE.  
PREVENT FORMATION OF DUST.

INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES:  
THE PRODUCT IS NOT FLAMMABLE.

WHEN POURING POWDER INTO A CONTAINER OF FLAMMABLE LIQUID, GROUND BOTH  
CONTAINERS ELECTRICALLY TO PREVENT A STATIC ELECTRIC SPARK.

KEEP RESPIRATORY PROTECTIVE DEVICE AVAILABLE.

### STORAGE:

INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:  
STORE AWAY FROM FOODSTUFFS.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS:  
KEEP RECEPTACLE TIGHTLY SEALED.

CLASS ACCORDING TO REGULATION ON FLAMMABLE LIQUIDS: NONE APPLICABLE.

## 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:

REL:  
80 (%SiO2) M3/M3  
OSHA TWA FOR AMORPHOUS SILICA

REL:  
6 M3/M3  
NIOSH TWA

TLV:  
10\* 5\*\* M3/M3  
ACGIH TWA  
\*TOTAL DUST  
\*\*RESPIRABLE FRACTION

7646-79-9 COBALT CHLORIDE:

REL:  
0.1\* M3/M3  
\*FOR METAL DUST & FUME, AS Co

REL:  
0.05\* M3/M3  
\*FOR METAL DUST & FUME, AS Co

TLV:

PERSONAL PROTECTIVE EQUIPMENT:

GENERAL PROTECTIVE AND HYGIENIC MEASURES:  
KEEP AWAY FROM FOODSTUFFS, BEVERAGES AND FEED.  
IMMEDIATELY REMOVE ALL SOILED AND CONTAMINATED CLOTHING.  
WASH HANDS BEFORE BREAKS AND AT THE END OF WORK.  
STORE PROTECTIVE CLOTHING SEPARATELY.

BRATHING EQUIPMENT:  
IN CASE OF BRIEF EXPOSURE OR LOW POLLUTION USE RESPIRATORY FILTER DEVICE.  
IN CASE OF INTENSIVE OR LONGER EXPOSURE USE RESPIRATORY PROTECTIVE DEVICE  
THAT IS INDEPENDENT OF CIRCULATING AIR.  
IF EXPOSURE LIMIT IS EXCEEDED, A SUITABLE RESPIRATORY PROTECTIVE DEVICE IS  
RECOMMENDED.

PROTECTION OF HANDS:  
PROTECTIVE GLOVES

THE GLOVE MATERIAL HAS TO BE IMPERMEABLE AND RESISTANT TO THE PRODUCT/THE  
SUBSTANCE/THE PREPARATION.

EYE PROTECTION: SAFETY GLASSES

BODY PROTECTION: PROTECTIVE WORK CLOTHING

9 PHYSICAL AND CHEMICAL PROPERTIES

GENERAL INFORMATION:

FORM: BEADS

COLOR: BLUE

ODOR: ODORLESS

CHANGE IN CONDITION:  
MELTING POINT/MELTING RANGE: UNDETERMINED.

FLASH POINT: NOT APPLICABLE.

AUTO IGNITING: PRODUCT IS NOT SELF-IGNITING.

DANGER OF EXPLOSION: PRODUCT DOES NOT PRESENT AN EXPLOSION HAZARD.

DENSITY:

BULK DENSITY AT 20 DEG. C (68 DEG. F): 25 - 35 LBS/FT3

SOLUBILITY IN / MISCIBILITY WITH WATER: INSOLUBLE.

pH-VALUE AT 20 DEG. C (68 DEG. F): 4.5 - 6.5

10 STABILITY AND REACTIVITY

THERMAL DECOMPOSITION / CONDITIONS TO BE AVOIDED:  
NO DECOMPOSITION IF USED ACCORDING TO SPECIFICATIONS.

DANGEROUS REACTIONS: REACTS WITH HYDROGEN FLUORIDE

DANGEROUS PRODUCTS OF DECOMPOSITION:  
NO DANGEROUS DECOMPOSITION PRODUCTS KNOWN.

11 TOXICOLOGY INFORMATION

ACUTE TOXICITY:

LD/LC50 VALUES THAT ARE RELEVANT FOR CLASSIFICATION:

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:

ORAL:  
LD50:  
>5110 MG/KG (RAT)  
IUCLID DATASET 18-FEB-2000  
OECD TG 401

DERMAL:  
LD50:  
>5000 MG/KG (RABBIT)  
IUCLID DATASET 18-FEB-2000  
OECD TG 402

INHALATIVE:  
LC50: >0.139 MG/L/14H (RAT)

7646-79-9 COBALT CHLORIDE:  
ORAL:  
LD50:  
80 MG/KG (RAT)  
OKER-CHEMIE MSDS (07/02/2005)

PRIMARY IRRITANT EFFECT:  
ON THE SKIN: MAY CAUSE IRRITATION WITH DRYNESS AND ABRASION.  
IN THE EYE: MAY CAUSE ABRASION, REDNESS AND PAIN.

SENSITIZATION: NO SENSITIZING EFFECTS KNOWN.

SUBACUTE TO CHRONIC TOXICITY:

AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:  
NO NEGATIVE EFFECTS WERE DETERMINED DURING TESTS FOR CHRONIC ORAL TOXICITY,  
CARCINOGENICITY, TERATOGENICITY AND FERTILITY. NO IRREVERSIBLE CHANGES AND  
NO SYMPTOMS OF SILICOSIS WERE DETERMINED DURING TESTS FOR CHRONIC  
INHALATIVE TOXICITY.

ADDITIONAL TOXICOLOGICAL INFORMATION:  
THE PRODUCT SHOWS THE FOLLOWING DANGERS ACCORDING TO INTERNALLY APPROVED  
CALCULATION METHODS FOR PREPARATIONS: CARCINOGENIC IF INHALED.

12 ECOLOGY INFORMATION

ECOTOXICAL EFFECTS:

AQUATIC TOXICITY:

FISH TOXICITY:

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:

LC50 (96 H):  
10000 MG/L (BRACHYDANIO RERIO)  
IUCLID DATASET 18-FEB-2000  
OECD TG 203

7646-79-9 COBALT CHLORIDE:

LC50:  
>35 MG/L (ONCORHYNCHUS MYKISS)  
OKER-CHEMIE MSDS (07/02/2005)

WATER FLEA TOXICITY:

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:

EC50 (24 H):  
>1000 MG/L (DAPHNIA MAGNA)  
IUCLID DATASET 18-FEB-2000  
OECD TG 202

7646-79-9 COBALT CHLORIDE:

EC50 (48 H):  
11.8 MG/L (DAPHNIA MAGNA)  
OKER-CHEMIE MSDS (07/02/2005)

ALGAE TOXICITY:

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:

EC50 (72 H):  
440 MG/L (SELENASTRUM CAPRICORNUTUM)  
IUCLID DATASET 18-FEB-2000  
ISO 8692

BACTERIAL TOXICITY:

7646-79-9 COBALT CHLORIDE:

EC50 (6D):  
64 MG/L (SLUDGE)  
OKER-CHEMIE MSDS (07/02/2005)

REMARK: HARMFUL TO FISH

GENERAL NOTES:  
GENERALLY NOT HAZARDOUS FOR WATER  
HARMFUL TO AQUATIC ORGANISMS

13 DISPOSAL CONSIDERATIONS

PRODUCT:

RECOMMENDATION:  
MUST NOT BE DISPOSED OF TOGETHER WITH HOUSEHOLD GARBAGE. DO NOT ALLOW  
PRODUCT TO REACH SEWAGE SYSTEM.

WHATEVER CANNOT BE SAVED FOR RECOVERY OR RECYCLING SHOULD BE MANAGED IN AN  
APPROPRIATE AND APPROVED WASTE DISPOSAL FACILITY. PROCESSING, USE OR  
CONTAMINATION OF THIS PRODUCT MAY CHANGE THE WASTE MANAGEMENT OPTIONS.  
STATE AND LOCAL DISPOSAL REGULATIONS MAY DIFFER FROM FEDERAL DISPOSAL  
REGULATIONS. DISPOSE OF CONTAINER AND UNUSED CONTENTS IN ACCORDANCE WITH  
FEDERAL, STATE AND LOCAL REQUIREMENTS.

14 TRANSPORT INFORMATION

TRANSPORT/ADDITIONAL INFORMATION:  
NOT REGULATED AS HAZARDOUS GOODS BY DOT, ADR, IMO, OR IATA.

15 REGULATIONS

SARA:

SECTION 355 (EXTREMELY HAZARDOUS SUBSTANCES):  
NONE OF THE INGREDIENTS ARE LISTED.

SECTION 313 (SPECIFIC TOXIC CHEMICAL LISTINGS):

7646-79-9 COBALT CHLORIDE

TSCA (TOXIC SUBSTANCES CONTROL ACT): ALL INGREDIENTS ARE LISTED.

PROPOSITION 65:

CHEMICALS KNOWN TO CAUSE CANCER: NONE OF THE INGREDIENTS ARE LISTED.

CHEMICALS KNOWN TO CAUSE REPRODUCTIVE TOXICITY FOR FEMALES:  
NONE OF THE INGREDIENTS ARE LISTED.

CHEMICALS KNOWN TO CAUSE REPRODUCTIVE TOXICITY FOR MALES:  
NONE OF THE INGREDIENTS ARE LISTED.

CHEMICALS KNOWN TO CAUSE DEVELOPMENTAL TOXICITY:  
NONE OF THE INGREDIENTS ARE LISTED.

CARCINOGENICITY CATEGORIES:

EPA (ENVIRONMENTAL PROTECTION AGENCY): NONE OF THE INGREDIENTS ARE LISTED.

IARC (INTERNATIONAL AGENCY FOR RESEARCH ON CANCER):

7646-79-9 COBALT CHLORIDE 2B

NTP (NATIONAL TOXICOLOGY PROGRAM): NONE OF THE INGREDIENTS ARE LISTED.

TLV (THRESHOLD LIMIT VALUE ESTABLISHED BY ACGIH):

7646-79-9 COBALT CHLORIDE A3

MAK (GERMAN MAXIMUM WORKPLACE CONCENTRATION):

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED 4E

NIOSH-CA (NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH): NONE OF THE INGREDIENTS ARE LISTED.

OSHA-CA (OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION): NONE OF THE INGREDIENTS ARE LISTED.

CANADIAN DSL: ALL INGREDIENTS ARE LISTED.

CANADIAN NDSL: NONE OF THE INGREDIENTS ARE LISTED.

KOREA ECL: ALL INGREDIENTS ARE LISTED.

EUROPEAN EINECS: ALL INGREDIENTS ARE LISTED.

PHILIPPINES INVENTORY OF CHEMICALS AND CHEMICAL SUBSTANCES PICCS: ALL INGREDIENTS ARE LISTED.

INVENTORY OF THE EXISTING CHEMICAL SUBSTANCES MANUFACTURED OR IMPORTED IN CHINA IECSC: ALL INGREDIENTS ARE LISTED.

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES AICS: ALL INGREDIENTS ARE LISTED.

EXISTING AND NEW CHEMICAL SUBSTANCE LIST ENCS: ALL INGREDIENTS ARE LISTED.

KOREAN EXISTING CHEMICAL INVENTORY KECI:

7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED KE-31032

7646-79-9 COBALT CHLORIDE KE-06095

PRODUCT RELATED HAZARD INFORMATION:  
OBSERVE THE GENERAL SAFETY REGULATIONS WHEN HANDLING CHEMICALS.

THE PRODUCT HAS BEEN CLASSIFIED AND MARKED IN ACCORDANCE WITH DIRECTIVES ON HAZARDOUS MATERIALS.

HAZARD SYMBOLS:  
T: TOXIC

HAZARD-DETERMINING COMPONENTS OF LABELLING: COBALT CHLORIDE

RISK PHRASES:

49: MAY CAUSE CANCER BY INHALATION.

52/53:  
HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

SAFETY PHRASES:

53: AVOID EXPOSURE - OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.

20: WHEN USING DO NOT EAT OR DRINK.

36: WEAR SUITABLE PROTECTIVE CLOTHING.

45:  
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY.

61:  
AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/SAFETY DATA SHEETS

#### 16 OTHER INFORMATION

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THIS INFORMATION IS BASED ON OUR PRESENT KNOWLEDGE. HOWEVER, THIS SHALL NOT CONSTITUTE A GUARANTEE FOR ANY SPECIFIC PRODUCT FEATURES AND SHALL NOT ESTABLISH A LEGALLY VALID CONTRACTUAL RELATIONSHIP.

COMPONENT HAZARD SYMBOLS:  
T: TOXIC  
N: DANGEROUS FOR THE ENVIRONMENT

COMPONENT RISK PHRASES:  
22: HARMFUL IF SWALLOWED.  
42/43: MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.  
49: MAY CAUSE CANCER BY INHALATION.

50/53:  
VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

DEPARTMENT ISSUING MSDS: GRACE DAVISON SAFETY & HEALTH DEPARTMENT

CONTACT: SALES OFFICES

USA:  
GRACE DAVISON  
7500 GRACE DR  
COLUMBIA, MD 21044  
410-531-4000

EUROPE:  
GRACE GMBH & CO. K. G.  
IN DER HOLLERHECKE 1  
POSTFACH 1445  
D-67545 WORMS  
GERMANY

49 (6241) 4030

ASIA PACIFIC:  
W.R. GRACE PTE. LTD.  
501 ORCHARD ROAD  
07-02 WHEELLOCK PLACE 238880  
SINGAPORE

TEL: (65) 6737 5488  
FAX: (65) 6737 5826

19TH FLOOR K. WAH CENTER  
1010 HUAI HAI ZHONG ROAD  
SHANGHAI, 200031  
CHINA

TEL: 86 21 5467 4678  
FAX: 86 21 5405 1500

| DATA COMPARED TO THE PREVIOUS VERSION ALTERED.  
USA