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

1 IDENTIFICATION OF SUBSTANCE

PRODUCT DETAILS:
TRADE NAME: GRADE 47 (R+*)
ARTICLE NUMBER: 5101542
MANUFACTURER/SUPPLIER:
GRADE DIVISION
W.R. Grace & Co.-Conn.
7600 Grace Dr.
Columbia, MD 21044

INFORMATION PAGE:
HEALTH AND SAFETY (8 AM TO 5 PM-MONDAY): 1-410-531-4764

EMERGENCY INFORMATION:
TRANSPORTATION EMERGENCY (24 HR):
CHERTRIC: 1-800-424-3300

CAS NO.:
7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICAL PREPARED
7646-79-9 COPPER CHLORIDE T, N
R 49-22-42/43-50/53

ADDITIONAL INFORMATION:
FOR THE M Nan of the COMPONENTS RISK PHRASES REFER TO SECTION 16.

3 RISKS 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 GUIDELINES FOR PREPARATIONS OF THE EUROPEAN UNION" IN THE LATEST VALID VERSION.

R 49: MAY CAUSE CANCER BY INHALATION.
R 51/53:
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.

RPPA RATINGS (SCALE 0-4):
HEALTH 2
FIRE 0
ACTIVITY 0

MSDS RATINGS (SCALE 0-4):
HEALTH 2
FIRE 0
ACTIVITY 0

4 FIRST AID MEASURES

AFTER INHALATION: SUPPLY FRESH AIR; CONSULT DOCTOR FOR CASE OF COMPLAINTS.
AFTER SKIN CONTACT: GENERAL: THE PRODUCT DOES NOT IRRITATE THE SKIN.
Skin Irritation: 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: IMMEDIATELY FLUSH MOUTH WITH ABUNDANCE OF WATER FOR AT LEAST 15 MINUTES, CALL PHYSICIAN OR POISON CONTROL CENTER OR CONSULT A DOCTOR.

5 FIRE FIGHTING MEASURES

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

PROTECTIVE EQUIPMENT:
WEAR PROTECTIVE CLOTHING.

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:
SHIELD AND CONTAMINATE FOR IMMEDIATE LEAKAGE OR DISCHARGE.

MEASURES FOR CLEANING/RECYCLING:
VALUABLE OR NOT ESPERATION MAY BE USED TO AVOID DUST DISPERSEANCE.
DISPOSAL OF THE COLLECTED MATERIAL ACCORDING TO REGULATIONS.

ADDITIONAL INFORMATION:
SEE SECTION 1 FOR INFORMATION ON SAFE HANDLING.
SEE SECTION 1 FOR INFORMATION ON PERSONAL PROTECTION EQUIPMENT.
SEE SECTION 3 FOR DISCLARATION INFORMATION.

7 HANDLING AND STORAGE

HANDLING:
INFORMATION FOR SAFE HANDLING: PREVENT FORMATION OF DUST.

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

STORAGE:
FURTHER INFORMATION ABOUT STORAGE CONDITIONS: KEEP RECEIPTABLE 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, CHEMICAL PREPARED:
PEL: 15 MILLIGRAMS PER CUBIC METRE GERA TWA FOR AMORPHOUS SILICA:
REL: 0.1 MG/M3
NIGHT TWA
TLV: 10* 0.1 MG/M3
ACGIH TWA
*TOTAL DUST
**RESPIRABLE FRACTION
7646-79-9 COPPER CHLORIDE:
PEL: 1 MG/M3
OSHA TWA
*FOR METAL DUST & FUMES, AS CO:
REL: 0.05* MG/M3
NIGHT TWA
*FOR METAL DUST & FUMES, AS CO
TLV: 0.25 MG/M3
ACGIH TWA AS CO
PERSONAL PROTECTIVE EQUIPMENT:
GENERAL PROTECTIVE AND HYGIENIC MEASURES:
THE GENERAL PREVENTION MEASURES FOR HANDLING CHEMICALS SHOULD BE FOLLOWED.

RESPIRATORY PROTECTIONS:
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/THIS SUBSTANCE/THIS PREPARATION.
PRODUCT:

RECOMMENDATION:
PRODUCT CANNOT BE SAVED FOR RECOVERY OR RECYCLING SHOULD BE MANAGED IN AN APPROPRIATE AND APPROVED WASTE DISPOSAL FACILITY. PROPERLY CLEAN OR DISINFECT THE WASTE MANAGEMENT SITE. STATE AND LOCAL DISPOSAL REGULATIONS MAY DIFFER FROM FEDERAL DISPOSAL REGULATIONS. DISPOSE OF CONTAINERS AND UNBLENDED CONTENTS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.

— 14 TRANSPORT INFORMATION ——

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

— 15 REGULATIONS ——

SARA:
SECTION 355 (EXTREMELY HAZARDOUS SUBSTANCES):
NONE OF THE INGREDIENTS ARE LISTED.
SECTION 313 (SPECIFIC TOXIC CHEMICAL LISTING):
7646-79-9 COBALT CHLORIDE
TSZC (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:
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 TOXICITY 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 JA
NCHER CA (NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH):
NONE OF THE INGREDIENTS ARE LISTED.
OSHA-CAL (OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION):
NONE OF THE INGREDIENTS ARE LISTED.
CANADIAN DGL: ALL INGREDIENTS ARE LISTED.
CANADIAN NDSL: NONE OF THE INGREDIENTS ARE LISTED.
JAPAN EMS: ALL INGREDIENTS ARE LISTED.
KOREA BCL: ALL INGREDIENTS ARE LISTED.
PHILIPPINES PDSO: ALL INGREDIENTS ARE LISTED.
EUROPEAN HINRE: ALL INGREDIENTS ARE LISTED.
PRODUCT RELATED HAZARD INFORMATION:
OBSERVE THE GENERAL SAFETY REGULATIONS WHEN HANDLING CHEMICALS;
THE PRODUCT IS NOT SUBJECT TO IDENTIFICATION REGULATIONS ACCORDING TO DIRECTIVES ON HAZARDOUS MATERIALS.
HAZARD SYMBOLS:
T: TOXIC

HAZARD-DETERMINING COMPONENTS OF LABELING: COBALT CHLORIDE
RISK PHRASES:
43: 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.

— 16 OTHER INFORMATION ——

ECOTOXICITY:

FISH TOXICITY:
7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:
LC50 (96 H): >10000 mg/L (BRACHYDANIO RUBRO)
OECD 202
WATER FISH TOXICITY:
7631-86-9 AMORPHOUS SILICON DIOXIDE, CHEMICALLY PREPARED:
LC50 (24 H): >2000 mg/L (HAMPALGA MAGNA)
OECD 202
GENERAL NOTES: GENERALLY NOT HAZARDOUS FOR WATER

— 13 DISPOSAL CONSIDERATIONS ——

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

COMPONENT HAZARD SYMBOLS:
T: TOXIC
I: DANGEROUS FOR THE ENVIRONMENT
COMPONENT RISK PHRASES:
22: HARMFUL IF SWALLOWED.
42/43: MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
43: MAY CAUSE CANCER BY INHALATION.