PPG INDUSTRIES, INC. ONE PPG PLACE PITTSBURGH, PA 15272

* * * HI-SIL(R) 929

MSDS NUMBER: 0623
DATE: 09/05/96
EDITION: 001
TRADE NAME: HI-SIL(R) 929
CHEMICAL NAME/SYNONYMS: HYDRATED AMORPHOUS SILICA, SYNTHETIC PRECIPITATED SILICAS
CHEMICAL FAMILY: NON-METALLIC OXIDE
FORMULA: SIO2 CAS NUMBER: 007631 86 9
U.S. DOT SHIPPING NAME: NOT REGULATED
U.S. DOT HAZARD CLASS: NOT REGULATED
SUBSIDIARY RISK: N/A
I.D. NUMBER: N/A
PACKING GROUP: N/A
REPORTABLE QUANTITY: N/A
HMIS RATING: 0-0-0-E

SECTION 1 * PHYSICAL DATA

BOILING POINT @ 760 MM HG: N/A
VAPOR DENSITY (AIR=1): N/A
SPECIFIC GRAVITY (H20=1): N/A
PH OF SOLUTIONS: 6.5-7.3 (5% SUSPENSION)
FREEZING/MELTING POINT: N/A
SOLUBILITY (WEIGHT % IN WATER): ESSENTIALLY INSOLUBLE
BULK DENSITY: VARIABLE
VOLUME % VOLATILE: N/A
VAPOR PRESSURE: NONE
EVAPORATION RATE: N/A
HEAT OF SOLUTION: N/A
APPEARANCE AND ODOR:
WHITE, ODORLESS POWDER

SECTION 2 * INGREDIENTS

MATERIAL	PERCENT
SIO2 HYDRATE	87% (MIN)

CONTAINS NO DETECTABLE CRYSTALLINE SILICA -
(DETECTION LIMIT <0.01% BY WEIGHT)

* * * 24-HOUR EMERGENCY ASSISTANCE: (304) 843-1300 * * *

MATERIAL SAFETY DATA SHEET

MARKETED BY
HARWICK STANDARD
DISTRIBUTION CORPORATION
60 S. Seiberling Street · Akron, Ohio 44305
Akron · Chicago · Northeast · Southern · West Coast

SECTION 3 * FIRE/EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED):
NONE

FLAMMABLE LIMITS IN AIR (% BY VOLUME)
LEL: N/A
UEL: N/A

EXTINGUISHING MEDIA:
N/A

SPECIAL FIRE FIGHTING PROCEDURES:
N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS:
NONE

SECTION 4 * HEALTH HAZARD DATA

TOXICITY DATA:

LC50 INHALATION:	SEE SECTION 5
LD50 DERMAL:	SEE SECTION 5
SKIN/EYE IRRITATION:	SEE SECTION 5
LD50 INGESTION:	ESTIMATED > 5 G/KG
FISH,LC50 (LETHAL CONCENTRATION):	UNKNOWN

CLASSIFICATION:

INHALATION:	NUISANCE DUST
SKIN:	SEE SECTION 5
SKIN/EYE:	MILDLY IRRITATING
INGESTION:	NOT SIGNIFICANTLY TOXIC
AQUATIC:	UNKNOWN

SECTION 5 * EFFECTS OF OVEREXPOSURE

IS CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?
NTP - NO IARC - NO OSHA - NO

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

NONE KNOWN

PERMISSIBLE EXPOSURE LIMITS:

OSHA: 6 MG/CU.M. (TOTAL DUST), 8-HOUR TWA (TIME WEIGHTED AVERAGE);
29 CFR 1910.1000 (REV. 3/1/89).
PPG INTERNAL PERMISSIBLE EXPOSURE LIMIT (IPEL):
SYNTHETIC PRECIPITATED SILICAS: 5 MG/CU.M.(RESPIRABLE DUST), 8-HOUR TWA.
ACGIH: 10 MG/CU.M. (TOTAL DUST), 8-HOUR TWA.

ACUTE:
EXCESSIVE CONTACT WITH POWDER CAN CAUSE DRYING OF MUCOUS MEMBRANES OF NOSE, EYES, AND THROAT DUE TO ABSORPTION OF MOISTURE AND OILS. THIS MATERIAL CAN ALSO CAUSE NASAL IRRITATION AND NOSEBLEEDS. EYE CONTACT WITH POWDER CAN RESULT IN MILD IRRITATION.

CHRONIC:
AN EPIDEMIOLOGICAL STUDY WAS CONDUCTED WHICH INCLUDED 165 PRECIPITATED SILICA WORKERS WHO HAD BEEN EXPOSED AN AVERAGE TIME SPAN OF 8.6 YEARS. OF THESE 165 WORKERS, 44 HAD BEEN EXPOSED FOR AN AVERAGE OF 18 YEARS. NO ADVERSE EFFECTS WERE NOTED IN COMPLETE MEDICAL EXAMINATIONS (INCLUDING CHEST ROENTGENOGRAMS) OF THESE WORKERS. PULMONARY FUNCTION DECREMENTS WERE CORRELATED ONLY WITH SMOKING AND AGE BUT NOT WITH THE DEGREE OR DURATION OF DUST EXPOSURES.

LABORATORY STUDIES HAVE ALSO BEEN CONDUCTED IN SMALL ANIMALS VIA INHALATION TO LEVELS OF PRECIPITATED SILICA DUST OF UP TO 126 MG/CU.M. FOR PERIODS FROM SIX MONTHS TO TWO YEARS. ALTHOUGH PRECIPITATED SILICA WAS TEMPORARILY DEPOSITED IN THE ANIMALS' LUNGS, MOST OF THE DEPOSITED MATERIAL WAS CLEARED SOON AFTER THE DUST EXPOSURE ENDED.

THE RESULTS OF ALL STUDIES PERFORMED BY, OR KNOWN TO, PPG INDICATE A VERY LOW ORDER OF PULMONARY ACTIVITY FOR SYNTHETIC PRECIPITATED SILICAS.

PPG RECOMMENDS THAT PERSONS WITH BREATHING PROBLEMS OR LUNG DISEASE SHOULD NOT WORK IN DUSTY AREAS UNLESS A PHYSICIAN APPROVES AND CERTIFIES THEIR FITNESS TO WEAR RESPIRATORY PROTECTION.

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* EMERGENCY AND FIRST AID PROCEDURES

INHALATION:

IF SYMPTOMS OF DISCOMFORT OR IRRITATION OCCUR DUE TO THIS PRODUCT, REMOVE

AFFECTED PERSON TO FRESH AIR. IF IRRITATION OR DISCOMFORT PERSISTS, CONSULT A PHYSICIAN.

EYE OR SKIN CONTACT:
IF POWDER ENTERS EYES, FLUSH WITH PLENTY OF WATER. IF IRRITATION OR DISCOMFORT OCCURS, CONSULT A PHYSICIAN.

INGESTION:
NOT A LIKELY ROUTE OF EXPOSURE.

NOTES TO PHYSICIAN (INCLUDING ANTIDOTES):
TREAT SYMPTOMATICALLY.

SECTION 6 * REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID: HIGH TEMPERATURES (>800 C) TREATMENT (CALCINING).

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: NONE

INCOMPATIBILITY (MATERIALS TO AVOID):
AVOID ALTERATION OF PRODUCT PROPERTIES BEFORE USE. CALCINING, WHICH MAY RESULT IN CRYSTALLINE FORMATION OR MIXING WITH ADDITIVES MAY ALTER TOXICOLOGICAL PROPERTIES.

HAZARDOUS DECOMPOSITION PRODUCTS:
NONE.

SECTION 7 * SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:
VACUUM SPILLED MATERIAL AND PLACE IN CLOSED PLASTIC BAGS FOR DISPOSAL. SEE SECTION 8 FOR PERSONAL PROTECTION INFORMATION.

WASTE DISPOSAL METHOD:
WASTE FROM THIS PRODUCT MAY BE DISPOSED OF IN A SANITARY LANDFILL IF STATE AND LOCAL REGULATIONS PERMIT. CARE SHOULD BE EXERCISED TO AVOID CREATION OF DUST DURING DISPOSAL OPERATIONS.

SECTION 8 * SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
USE NIOSH/MSHA APPROVED DUST FILTER RESPIRATOR FOR EXPOSURE ABOVE PERMISSIBLE

EXPOSURE LIMITS. THE RESPIRATORY USE LIMITATIONS MADE BY NIOSH/MSHA OR THE MANUFACTURER MUST BE OBSERVED. RESPIRATORY PROTECTION PROGRAMS MUST BE IN ACCORDANCE WITH 29 CFR 1910.134.

VENTILATION(TYPE):
GENERAL OR LOCAL EXHAUST SUFFICIENT TO MAINTAIN EMPLOYEE EXPOSURE BELOW PERMISSIBLE EXPOSURE LIMITS.

EYE PROTECTION:
IF EYE EXPOSURE TO POWDER LIKELY,
USE TIGHT FITTING PROTECTIVE GOGGLES.

GLOVES:
CLOTH, LEATHER, OR RUBBER

OTHER PROTECTIVE EQUIPMENT:
BOOTS, APRONS, OR CHEMICAL SUITS SHOULD BE USED WHEN NECESSARY TO PREVENT SKIN CONTACT. PERSONAL PROTECTIVE CLOTHING AND USE OF EQUIPMENT MUST BE IN ACCORDANCE WITH 29 CFR 1910.132 AND 29 CFR 1910.133.

SECTION 9 * SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING:

* WEAR RESPIRATORY PROTECTION WHEN DUST EXPOSURE IS ABOVE PERMISSIBLE EXPOSURE LIMITS. RESPIRATORY PROTECTION MUST BE NIOSH/MSHA APPROVED DUST FILTER RESPIRATOR.
* STORE IN A DRY AREA.

OTHER PRECAUTIONS:

* AVOID PROLONGED OR REPEATED INHALATION OF DUST. MAY IRRITATE THE RESPIRATORY TRACT.
* AVOID CONTACT WITH EYES. MAY CAUSE IRRITATION AND PAIN.
* AVOID PROLONGED, REPEATED, OR EXCESSIVE CONTACT WITH SKIN. MAY CAUSE IRRITATION AND DISCOMFORT.
* USE WITH ADEQUATE VENTILATION. VENTILATION MUST BE SUFFICIENT TO LIMIT EMPLOYEE EXPOSURE TO THIS PRODUCT BELOW PERMISSIBLE EXPOSURE LIMITS. OBSERVANCE OF LOWER LIMITS (SECTION 5) IS ADVISABLE.
* WASH THOROUGHLY EVERYDAY AFTER WORK.
* DO NOT EAT, DRINK OR SMOKE IN WORK AREA.

COMMENTS:
TSCA - SYNTHETIC AMORPHOUS SILICA IS ON THE TSCA INVENTORY UNDER CAS NO. 7631-86-9.
SARA TITLE III - A) 311/312 CATEGORIES - ACUTE, B) NOT LISTED IN SECTION 313, C) NOT LISTED AS AN "EXTREMELY HAZARDOUS SUBSTANCE" IN SECTION 302.

R. KENNETH LEE
MANAGER, PRODUCT SAFETY