

Wearcoat SG-1

1	PRODUCT AND COMPANY IDENTIFICATION
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Product Identifier: Wearcoat SG-1
Common Name: Epoxy ester
SDS Number: I160
Revision Date: 8/30/2019
Version: 1
Product Use: Epoxy floor coating
Supplier Details: Coatings For Industry, Inc.
 319 Township Line Road
 Souderton, PA 18964

Emergency: Infotrac
Contact: USA: 1-800-535-5053 / International :352-323-3500
Phone: 215-723-0919
Fax: 215-723-0911
Email: cs@cficoatings.com
Web: www.cficoatings.com

2	HAZARDS IDENTIFICATION
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Classification of the substance or mixture**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**

Physical, Flammable Liquids, 3
 Health, Acute toxicity, 4 Inhalation
 Health, Skin corrosion/irritation, 2
 Health, Serious Eye Damage/Eye Irritation, 2 B
 Health, Reproductive toxicity, 1 A
 Health, Aspiration hazard, 1
 Health, Carcinogenicity, 1

GHS Label elements, including precautionary statements**GHS Signal Word: DANGER****GHS Hazard Pictograms:****GHS Hazard Statements:**

H226 - Flammable liquid and vapor
 H332 - Harmful if inhaled
 H315 - Causes skin irritation
 H320 - Causes eye irritation
 H360 - May damage fertility or the unborn child (state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
 H304 - May be fatal if swallowed and enters airways
 H350 - May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

GHS Precautionary Statements:

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264 - Wash _ thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352 - IF ON SKIN: Wash with soap and water.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P330 - Rinse mouth.
P332+313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P501 - Dispose of contents/container in compliance with all Federal, State/Provincial and local laws

Hazards not otherwise classified (HNOC) or not covered by GHS

Route of Entry: Skin contact, and Eye contact.

Target Organs: Chronic (Cancer) Information:
Contains CRYSTALLINE SILICA, which can be a health hazard. Respirable crystalline silica can cause the occupational lung disease silicosis (a scarring of the lungs), and IARC concluded in October 1996 that crystalline silica is carcinogenic to humans. Silicosis increases the risk of tuberculosis, autoimmune and chronic kidney diseases, as well as non-malignant respiratory disease (such as chronic bronchitis and emphysema).

IARC: A component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

ACGIH: A component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP: A component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Teratology (Birth Defects) Information:
May damage fertility or the unborn child.

Reproduction Information:
Contains xylene, which may harm the developing fetus if a pregnant woman is overexposed. Xylene may affect the liver, kidneys, G.I., blood.

Aggravation of Pre-Existing Conditions:
Dermatitis or other skin conditions.

Inhalation: The low vapor pressure of the resin makes inhalation unlikely in normal use.

Skin Contact: - Moderate irritant. Contact at elevated temperatures can cause thermal burns. May cause skin sensitization (rashes, hives). Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Eye Contact: Moderate to severe irritant. Contact at elevated temperatures can cause thermal burns.

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3 COMPOSITION/INFORMATION ON INGREDIENTS
Ingredients:

Cas#	%	Chemical Name
68187-64-4	25-30%	Nepheline syenite
14808-60-7	15-20%	Silica, crystalline quartz
1344-28-1	10-15%	Aluminum oxide (Al ₂ O ₃)
107-98-2	0-2%	1-Methoxy-2-propanol
1333-86-4	0.181%	Carbon black
98-56-6	10-15%	Benzene, 1-chloro-4-(trifluoromethyl)-
68552-26-1	8-12%	Fatty acids, dehydrated castor-oil, polymers with bisphenol A,
p-tert-butylbenzoic acid,		epichlorohydrin and tall-oil fatty acids
1330-20-7	5-10%	xylene
100-41-4	1-2%	Ethyl benzene
13463-67-7	0.5-1.5%	Titanium oxide (TiO ₂)

4 FIRST AID MEASURES

Inhalation:	If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison control center/get medical attention if you feel unwell.
Skin Contact:	Remove contaminated clothing and footwear immediately, and wash before reuse. Discard clothing and footwear which cannot be decontaminated. Wash with soap and water. Get medical attention if irritation develops and persists.
Eye Contact:	Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation. Then remove contact lenses, if easily removeable, and continue irrigation for not less than 15 minutes. Get medical Attention if irritation develops.
Ingestion:	DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. May be fatal if swallowed and enters airways. If swallowed: Immediately call a poison center/physician. Never give anything by mouth to an unconscious individual.

5 FIRE FIGHTING MEASURES

Flash Point:	>=80 F
Flash Point Method:	TCC
LEL:	0.9
UEL:	13.8

Hazardous gases/vapors produced in fire are carbon monoxide, carbon dioxide, phenolics.

Extinguishing Media: Water, foam, dry chemical, CO₂.

Fire Fighting Instructions:

Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by fire fighters. During a fire irritating, highly toxic gases may be generated by thermal decomposition or combustion. (See Section VIII) Emits toxic fumes under fire conditions. Isolate from heat, electrical equipment, sparks, and open flame. Closed container may explode when exposed to extreme heat.

Wear neoprene gloves when handling refuse from fire.

Sensitivity to Static Discharge: Material may accumulate a static charge which could act as an ignition source.

Precautions should be taken when pouring to minimize splash/free fall.

6 ACCIDENTAL RELEASE MEASURES
Containment Techniques

Contain spill.

Clean-Up Techniques

Wear proper personal protective clothing and equipment.

Do not flush liquid into public sewer, water systems or surface waters.

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Soak up large spill residue and small spills with an inert absorbent. Place into labeled, closed container; store in safe location to await disposal. Wash the spill area with soap and water. Dispose of in accordance with national and local regulations. Change contaminated clothing and launder before reuse.
CAUTION: Spilled liquid may be slippery. Use care to avoid falls.

7	HANDLING AND STORAGE
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Handling Precautions:	Keep away from heat, sparks, open flames, hot surfaces. NO SMOKING. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/processing equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/eye protection/face protection.
Storage Requirements:	Do not store in open, unlabeled or mislabeled containers. Do not puncture or stack drums. Keep container closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning. Store in cool/dry area. Keep away from heat, sparks, and flames.

8	EXPOSURE CONTROLS/PERSONAL PROTECTION
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Engineering Controls:	Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. Ventilation guidelines/techniques may be found in publications such as Industrial Ventilation: American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Drive, Cincinnati, OH, 45240 1634, USA.
Personal Protective Equipment:	<p>Eye/Face Protection Wear eye protection (chemical goggles or goggles and an 8-inch (minimum) full face shield where spilling and splashing may occur).</p> <p>Skin Protection Wear chemical resistant (impervious) gloves.</p> <p>Respiratory Protection Wear a respirator approved by NIOSH/MSHA (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume or vapor exceed the exposure limit(s) of any chemical substance listed in this MSDS. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR).</p> <p>Silica, crystalline quartz (14808-60-7)</p> <p>Personal protective equipment</p> <p>Respiratory Protection: If it is not possible to reduce airborne exposure levels to below the OSHA PEL or other applicable limit with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the OSHA PEL. This table is part of the NIOSH Respirator Selection Logic, 2004, Chapter III, Table 1, "Particulate Respirators". The full document can be found at www.cdc.gov/niosh/npptl/topics/respirators; the user of this MSDS is directed to that site for information concerning respirator selection and use. The assigned protection factor (APF) is the minimum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m³, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m³.</p>

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1. The protection offered by a given respirator is contingent upon (1) the respirator user adhering to complete program requirements (such as the ones required by OSHA in 29CFR1910.134), (2) the use of NIOSH-certified respirators in their approved configuration, and (3) individual fit testing to rule out those respirators that cannot achieve a good fit on individual workers.
2. Appropriate means that the filter medium will provide protection against the particulate in question.
3. An APF of 10 can only be achieved if the respirator is qualitatively or quantitatively fit tested on individual workers.

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

1-Methoxy-2-propanol (107-98-2)

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min
Material tested: Butoject (KCL 897 / Aldrich Z677647, Size M)

Splash contact: Material: Nature latex/chloroprene Minimum layer thickness: 0.6 mm Break through time: 37 min Material tested: Lapren (KCL 706 / Aldrich Z677558, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Carbon black (1333-86-4)

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Personal protective equipment

Eye/face protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Aluminum oxide (Al₂O₃) (1344-28-1)

Personal protective equipment

Eye/face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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Respiratory protection: Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: No special environmental precautions required.

Benzene, 1-chloro-4-(trifluoromethyl)- (98-56-6)

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Xylene (1330-20-7)

Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Ethyl benzene (100-41-4)

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Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich Z677698, Size M) Splash contact data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Components with workplace control parameters:

Nepheline Syenite (37244-96-5)

TWA 5mg/m³ 8hr. OSHA/PEL

Silica, crystalline quartz (14808-60-7)

TWA 0.025 mg/m³ USA. ACGIH Threshold Limit Values (TLV)
Suspected human carcinogen
TWA 0.025 mg/m³ USA. ACGIH Threshold Limit Values (TLV)
Lung cancer Pulmonary fibrosis Suspected human carcinogen

Component	CAS No.	OSHA PEL TWA STEL	ACGHI TLV TWA STEL	NIOSH REL TWA STEL Unit
Crystalline Silica (quartz)	14808-60-7	10 None	0.025 None	0.05 None mg / m ³

Aluminum oxide (Al₂O₃) (1344-28-1)

alpha-Alumina is the main component of technical grade alumina.
Corundum is natural Al₂O₃. Emery is an impure crystalline variety of Al₂O₃.
See Appendix D - Substances with No Established RELs

TWA 15 mg/m³ USA. Occupational Exposure Limits
(OSHA) - Table Z-1 Limits for Air Contaminants

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TWA	5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TWA	10 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA	5 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA	1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Lower Respiratory Tract irritation
Pneumoconiosis
Neurotoxicity
Not classifiable as a human carcinogen

1-Methoxy-2-propanol (107-98-2)

Components with workplace control parameters

TWA 100 ppm USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment
Eye irritation

STEL 150 ppm USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment
Eye irritation

TWA 100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
360 mg/m3

STEL 150 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
540 mg/m3

TWA 100 ppm USA. NIOSH Recommended Exposure Limits
360 mg/m3

ST 150 ppm USA. NIOSH Recommended Exposure Limits
540 mg/m3

Carbon black (1333-86-4)

TWA 3.5 mg/m3 USA. ACGIH Threshold Limit Values (TLV)
Not classifiable as a human carcinogen

TWA 3.5 mg/m3 USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA 3.5 mg/m3 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

TWA 3.5 mg/m3 USA. NIOSH Recommended Exposure Limits
TWA 0.1 mg/m3 USA. NIOSH Recommended Exposure Limits

Potential Occupational Carcinogen Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs)
See Appendix C
See Appendix A

Benzene, 1-chloro-4-(trifluoromethyl)- (98-56-6) : no data available

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Xylene (1330-20-7)

TWA 100 ppm USA. Occupational Exposure Limits (OSHA) - Table Z- 1
435 mg/m3 Limits for Air Contaminants

TWA 100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
435 mg/m3 1910.1000

STEL 150 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
655 mg/m3 1910.1000

TWA 100 ppm USA. ACGIH Threshold Limit Values (TLV)
434 mg/m3

Not classifiable as a human carcinogen

STEL 150 ppm USA. ACGIH Threshold Limit Values (TLV)
651 mg/m3

Not classifiable as a human carcinogen

TWA 100 ppm USA. ACGIH Threshold Limit Values (TLV)
Eye & Upper Respiratory Tract irritation Central Nervous System impairment Substances for which
there is a Biological Exposure Index or Indices (see BEI section) Not classifiable as a human
carcinogen

STEL 150 ppm USA. ACGIH Threshold Limit Values (TLV)
Eye & Upper Respiratory Tract irritation Central Nervous System impairment Substances for which
there is a Biological Exposure Index or Indices (see BEI section) Not classifiable as a human
carcinogen

TWA 100 ppm USA. Occupational Exposure Limits (OSHA) - Table Z- 1
435 mg/m3 Limits for Air Contaminants

The value in mg/m3 is approximate.

TWA 100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
435 mg/m3 1910.1000

STEL 150 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
655 mg/m3 1910.1000

Ethyl benzene (100-41-4)

TWA 100 ppm USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Adopted values
or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended
Changes (NIC) Substances for which there is a Biological Exposure Index or Indices (see BEI
section) Confirmed animal carcinogen with unknown relevance to humans

STEL 125 ppm USA. ACGIH Threshold Limit Values (TLV)
Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Adopted values
or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended
Changes (NIC) Substances for which there is a Biological Exposure Index or Indices (see BEI
section) Confirmed animal carcinogen with unknown relevance to humans

TWA 100 ppm USA. NIOSH Recommended Exposure Limits
435 mg/m3

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ST 125 ppm USA. NIOSH Recommended Exposure Limits
545 mg/m³

TWA 100 ppm USA. Occupational Exposure Limits (OSHA) - Table Z- 1
435 mg/m³ Limits for Air Contaminants
The value in mg/m³ is approximate.

TWA 100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
435 mg/m³ 1910.1000

STEL 125 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
545 mg/m³ 1910.1000

Titanium Dioxide (13463-67-7)

PEL: (OSHA) 15 mg/m³ 8 hr. TWA Total dust.
TLV : (ACGIH) 10 mg/m³ TWA

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Opaque, Gray	Odor:	Mild solvent odor
Physical State:	Liquid	Solubility:	Negligible in water
Spec Grav./Density:	1.754	Vapor Density:	Heavier than air
Boiling Point:	248 F	VOC:	Coating: 2.07 lb./gal., Material: 1.73 lb./g

10 STABILITY AND REACTIVITY

Chemical Stability: This product is stable

Conditions to Avoid: Heating above 300 ° F in the presence of air may cause slow oxidation decomposition and above 662 ° F may cause potentially violent decomposition.

Materials to Avoid: Strong oxidizers, acids, bases.

Hazardous Decomposition: Decomposition or combustion may generate irritating vapors, CO, CO₂, Phenolics.

Hazardous Polymerization: Hazardous polymerization will not occur.

11 TOXICOLOGICAL INFORMATION

Silica, crystalline quartz (14808-60-7)

The method of exposure that can lead to the adverse health effects described below is inhalation.

A. SILICOSIS

The major concern is silicosis, caused by the inhalation of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years (15 to 20 or more) of prolonged repeated inhalation of relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath and cough. Complicated silicosis or PMF may be associated with decreased lung function and may be

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disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale). Accelerated Silicosis can occur with prolonged repeated inhalation of high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid.

Acute Silicosis can occur after the repeated inhalation of very high concentrations of respirable crystalline silica over a short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, weakness and weight loss. Acute silicosis is fatal.

B. CANCER

IARC - The International Agency for Research on Cancer ("IARC") concluded that "crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)". For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, "A Review of Human Carcinogens: Arsenic, Metals, Fibres and Dusts " (2011).

The American College of Occupational and Environmental Medicine ("ACOEM") notes: "In 1996, [IARC] re-classified silica as a Class I human lung carcinogen, based on sufficient animal and human data. Although the degree of increased risk varies (with relative risks ranging from 1.3 to 6.9), the risk appears to be greatest in workers with silicosis who smoke. The cancer risk to silica-exposed workers without silicosis (especially if they are not smokers) is less clear despite continuing research, some of which has yielded disparate results." ACOEM, "Medical Surveillance of Workers Exposed to Crystalline Silica", June 2005.

The EU Scientific Committee for Occupational Exposure Limits (SCOEL) concluded in June 2002 (SCOEL Sum Doc. 94-final): "The main effect in humans of inhalation of respirable silica dust is silicosis. There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore preventing the onset of silicosis will also reduce the cancer risk."

C. AUTOIMMUNE DISEASES

Several studies have reported excess cases of several autoimmune disorders, -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis -- among silica-exposed workers.).

D. TUBERCULOSIS

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to tuberculosis bacteria. Individuals with chronic silicosis have a three-fold higher risk of contracting tuberculosis than similar individuals without silicosis.

E. KIDNEY DISEASE

Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).

F. NON-MALIGNANT RESPIRATORY DISEASES

The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below, for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).

Sources of information:

The **NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica** published in April 2002 summarizes and discusses the medical and epidemiological literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica. The *NIOSH Hazard Review* should be consulted for additional information, and citations to published studies on health risks and diseases associated with occupational exposure to respirable crystalline silica. The *NIOSH Hazard Review* is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or through the NIOSH web site, www.cdc.gov/niosh/topics/silica, then click on the link "NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica".

Information on toxicological effects

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Acute toxicity:

Oral LD50 no data available

Inhalation LC50

Dermal LD50

Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

Limited evidence of carcinogenicity in human studies

IARC: 1 - Group 1: Carcinogenic to humans (Quartz)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: Known to be human carcinogen (Quartz)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System): Inhalation - May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stages, loss of appetite, pleuritic pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with respirable particles of 3-4 um over protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz toxicity, including its mechanisms for lung carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is related to its carcinogenic potential.

Synergistic effects: no data available

Additional Information:

RTECS: VV7330000

Aluminum oxide (Al₂O₃) (1344-28-1)

Information on toxicological effects

Acute toxicity: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

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Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: BD1200000

Cough, chest pain, Difficulty in breathing, Gastrointestinal disturbance

Liver - Irregularities - Based on Human Evidence

1-Methoxy-2-propanol (107-98-2)

Information on toxicological effects

Acute toxicity:

LD50 Oral - mouse - 11,700 mg/kg Remarks: Behavioral:Convulsions or effect on seizure threshold. Behavioral:Ataxia. Lungs, Thorax, or Respiration:Dyspnea.

LC50 Inhalation - rat - 5 h - 10000 ppm

LD50 Dermal - rabbit - 13,000 mg/kg

Skin corrosion/irritation: Skin - rabbit Result: Open irritation test

Serious eye damage/eye irritation: Eyes - rabbit Result: Mild eye irritation - 24 h

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

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Additional Information:

RTECS: UB7700000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Liver - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence

Carbon black (1333-86-4)

Information on toxicological effects

Acute toxicity:

LD50 Oral - rat - male and female - > 8,000 mg/kg (OECD Test Guideline 401)

Inhalation: no data available

LD50 Dermal - rabbit - > 3,000 mg/kg

Skin corrosion/irritation: Skin - rabbit Result: No skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - rabbit Result: No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation: - guinea pig Result: Did not cause sensitisation on laboratory animals. (OECD Test Guideline 406)

Germ cell mutagenicity: Ames test *S. typhimurium* Result: negative

Hamster ovary

DNA repair rat - female

Carcinogenicity:

Carcinogenicity - rat - Inhalation:

Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Carbon black)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: FF5800000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Benzene, 1-chloro-4-(trifluoromethyl)- (98-56-6)

ACUTE ORAL TOXICITY: LD50: >6.8 g/kg (rat)

ACUTE DERMAL: LD50: >2.7 g/kg (rabbit)

ACUTE INHALATION: LC50: > 4479 ppm (rat)

PRIMARY SKIN IRRITATION: non-irritating (rabbit)

PRIMARY EYE IRRITATION: non-irritating (rabbit)

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A 28-day range-finding inhalation study was conducted in male and female Sprague-Dawley rats exposed to 0, 100, 250, 500, or 1000 ppm for 6 hour/day, 5 days/week. Clinical signs included increased activity at 250 ppm and above. Liver and kidney weights were increased. Microscopic changes in male kidneys stained positive for alpha-2-U globulin and the effects were considered not relevant to humans. Liver cell hypertrophy was seen at all exposures in males. Liver changes were consistent with clinical chemistry and PCBTF-blood level analysis and are believed to be an adaptive response, due to increased liver metabolism.

Gavage studies in laboratory rodents for treatment periods of 14, 28, and 90 days have demonstrated significant liver and kidney toxicity at dose levels of 400 - 1000 mg/kg/day. Evidence of target organ toxicity included significant increases in relative liver and kidney weights, clinical chemistry values and histopathological findings. Renal toxicity which occurred only in male rats, was apparently due to "hyaline droplet" nephropathy and is therefore, highly unlikely to develop in man. The NOAEL's for all these studies range from 10 to 100 mg/kg/day. CNS effects were observed in rats exposed to PCBTF at or above 2822 ppm for 4 hours. A 90 day (13 week) rat inhalation toxicity and neurobehavioral study was conducted using exposures of 6 hours/day, 5 days/week at concentrations of 0, 10, 50 and 250 ppm. There were no PCBTF-related macroscopic observations. Microscopically, PCBTF-related centrilobular hypertrophy was present only in the livers of males and females at the high dose (250 ppm) after 13-weeks of exposure. No centrilobular hypertrophy was observed at any level among recovery animals. There were no PCBTF-related effects on the nervous system as measured by a functional observation battery, muscular activity measurements and neuropathology. A NOEL of 50 ppm was established in this study for liver hepatocyte hypertrophy in male and female rats. If the hepatocyte hypertrophy observed is considered to be an adaptive response to PCBTF, the NOAEL for this study is 250ppm.

CARCINOGENICITY

This product does not contain any substances at > 0.1 weight % that are considered by OSHA, NTP, IARC or AGCIH to be "probable" or "suspected" carcinogens.

Xylene (1330-20-7)

Information on toxicological effects

Acute toxicity:

Oral LD50: (Rat) 4300 mg/kg

Inhalation LC50: (Rat, male, 4hr) 29.091mg/l (EU method B.2)

Dermal LD50: (Rabbit, male) >4400mg/kg

Other information on acute toxicity

Skin corrosion/irritation: (Rabbit, 24hr) irritating

Serious eye damage/eye irritation: Causes eye irritation

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Carcinogenicity:

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Ethylbenzene)

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Xylene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Two-generation study, Inhalative, daily, (rat, male/female) NOAEL (parental): 500, NOAEL (F1): > 500, NOAEL (F2): > 500 No toxicity to reproduction

Teratogenicity: rat, female, inhalation, gestation days 9-14, 24 hrs/day, NOAEL (teratogenicity): > 230 ppm, NOAEL (maternal): > 230 ppm No Teratogenic effects observed at doses tested.rat, female, inhalation, gestation days 6-20, 6

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hours/day, NOAEL (teratogenicity): > 8.684 mg/l, NOAEL (maternal): 2.171 mg/l, No Teratogenic effects observed at doses tested.

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System): no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. Causes respiratory tract irritation. Ingestion May be harmful if swallowed. Skin Causes skin irritation. Eyes Causes eye irritation.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional Information:

RTECS: Not available

Ethyl benzene (100-41-4)

Information on toxicological effects

Acute toxicity:

LD50 Dermal Rabbit >5000 mg/kg

LD50 Oral Rat 3500 mg/kg

Other information on acute toxicity

Skin corrosion/irritation: mild irritant

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Ethylbenzene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System): no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. Causes respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. Causes skin irritation. Eyes Causes eye irritation.

Signs and Symptoms of Exposure: Central nervous system depression, Nausea, Headache, Vomiting, Ataxia., Tremors

Synergistic effects: no data available

Additional Information:

RTECS: DA0700000

Titanium Dioxide (13463-67-7)

Inhalation 4 h LC50 : > 6.82 mg/l , Rat

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Dermal LD50 : > 10,000 mg/kg , Rabbit
 Oral LD50 : > 5,000 mg/kg , Rat
 Skin irritation : Slight or no skin irritation, Rabbit
 Eye irritation : Slight or no eye irritation, Rabbit
 Sensitisation : Did not cause sensitisation on laboratory animals., Mouse
 Did not cause sensitisation on laboratory animals., Guinea pig
 Repeated dose toxicity : Oral Rat: No toxicologically significant effects were found.
 Inhalation Rat: No toxicologically significant effects were found.

Carcinogenicity : In lifetime inhalation studies rats were exposed for 2 years to respectively 10, 50 and 250 mg/m³ of respirable TiO₂. Slight lung fibrosis was observed at 50 and 250 mg/m³ levels. Microscopic lung tumours were also observed in 13 percent of the rats exposed to 250 mg/m³, an exposure level that caused lung overloading and impairment of rat lungs clearance mechanisms. In further studies, these tumours were found to occur only under particle overload conditions in a uniquely sensitive species, the rat, and have little or no relevance for humans. The pulmonary inflammatory response to TiO₂ particles exposure was also found to be much more severe in rats than in other rodent species. In February 2006, IARC has re-evaluated Titanium dioxide as pertaining to Group 2B: "possibly carcinogenic to humans", based upon inadequate evidence in humans and sufficient evidence in experimental animals for the carcinogenicity of titanium dioxide. IARC evaluation guidelines consider the generation of tumours, in 2 different studies within the same animal species, to be adequate criteria for an assessment of sufficient evidence. The conclusions of several epidemiology studies on more than 20000 TiO₂ industry workers in Europe and the USA did not suggest a carcinogenic effect of TiO₂ dust on the human lung. Mortality from other chronic diseases, including other respiratory diseases, was also not associated with exposure to TiO₂ dust. Based

upon all available study results, DuPont scientists conclude that titanium dioxide will not cause lung cancer or chronic respiratory diseases in humans at concentrations experienced in the workplace.

Mutagenicity : Did not cause genetic damage in animals.

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

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ECOLOGICAL INFORMATION**Silica, crystalline quartz (14808-60-7)**

Information on ecological effects

Ecotoxicological Information:

Crystalline silica (quartz) is not known to be ecotoxic; i.e., no data suggests that crystalline silica (quartz) is toxic to birds, fish, invertebrates, microorganisms or plants.

Aluminum oxide (Al₂O₃) (1344-28-1)

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

1-Methoxy-2-propanol (107-98-2)

Information on ecological effects

Toxicity: no data available

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Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Carbon black (1333-86-4)

Information on ecological effects

Toxicity:

Toxicity to fish LC50 - Danio rerio (zebra fish) - > 1,000 mg/l - 96 h.

Toxicity to daphnia and static test EC50 - Daphnia magna (Water flea) - > 5,600 mg/l - 24 h.

other aquatic (OECD Test Guideline 202) invertebrates

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - > 10,000 mg/l -: 72 h (OECD Test Guideline 201)

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Benzene, 1-chloro-4-(trifluoromethyl)- (98-56-6)

Information on ecological effects

AQUATIC ECOTOXicity DATA

Fish:

LC50 (96 hr.) (Rainbow trout) 13.5 mg/L

LC50 (96 hr.) (Bluegill sunfish) 12.0 mg/L

MATC (31 day) (Fathead minnow) >0.54 <1.4 mg/L*

*Triethylene glycol used as solvent carrier

BCF (48 hr.) (Bluegill sunfish) 121.8 & 202.0

Invertebrates:

LC50 (48 hr.) (Water flea) 12.4 mg/L

MATC (21 day) (Water flea) >0.03 < 0.05 mg/L*

*Acetone used as solvent carrier

Plants:

IC50 (72 hr.) (Green & Blue-green algae) 500 mg/L

PERSISTANCE AND DEGRADABILITY

Biotic:

Biodegradation: inconclusive due to volatility

Abiotic:

Atmospheric lifetime: estimated to be 65.9 days for OH radical reaction

Log Kow 3.7

Koc 420 - 530

Water Sol. @ 23 C 29.1

p-Chlorobenzotrifluoride (PCBTF) will preferentially partition to the atmosphere, due to its high volatility. It has been estimated that 99.93% of a 100 Kg spill would end up in the atmosphere,

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while only 0.06% would partition to water (M. Garlanda, 1990). The aqueous solubility of PCBTF (29.1 mg/L) would also tend to limit its potential impact to exposed aquatic systems. PCBTF has exhibited significant toxicity to aquatic species under laboratory conditions, but is unlikely to exhibit a similar degree of acute toxicity under environmental conditions due to the aforementioned solubility and volatility issues. The moderate level of bioaccumulation measured in laboratory tests will also be subject to environmental mitigation due to PCBTF's physical/chemical properties. PCBTF should rapidly volatilize from dry and moist soils. Volatility, and relative environmental partitioning characteristics, make it unlikely that PCBTF represents a significant threat to aquatic or terrestrial environments.

BIOACCUMULATIVE POTENTIAL

See section above

MOBILITY IN SOIL

See section above

OTHER ADVERSE EFFECTS

NA

Xylene (1330-20-7)

Information on ecological effects

Acute EC50 90 mg/l Fresh water Crustaceans - Cypris subglobosa, 48 hours

Acute LC50 8.5 ppm Marine water Crustaceans - Palaemonetes pugio - Adult, 48 hours

Acute LC50 8500 $\mu\text{g/l}$ Marine water Crustaceans - Palaemonetes pugio, 48 hours

Acute LC50 15700 $\mu\text{g/l}$ Fresh water Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling), 96 hours

Acute LC50 19000 $\mu\text{g/l}$ Fresh water Fish - Lepomis macrochirus 96 hours

Acute LC50 13400 $\mu\text{g/l}$ Fresh water Fish - Pimephales promelas 96 hours

Acute LC50 16940 $\mu\text{g/l}$ Fresh water Fish - Carassius auratus 96 hours

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

Ethyl benzene (100-41-4)

Information on ecological effects

Toxicity:

Acute EC50 4600 $\mu\text{g/l}$ Fresh water Algae - Pseudokirchneriella subcapitata, 72 hours

Acute EC50 3600 $\mu\text{g/l}$ Fresh water Algae - Pseudokirchneriella subcapitata, 96 hours

Acute EC50 6530 $\mu\text{g/l}$ Fresh water Crustaceans - Artemia sp. - Nauplii, 48 hours

Acute EC50 2930 $\mu\text{g/l}$ Fresh water Daphnia - Daphnia magna - Neonate, 48 hours

Acute LC50 4200 $\mu\text{g/l}$ Fresh water Fish - Oncorhynchus mykiss 96 hours

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

Titanium Dioxide (13463-67-7)

96 h LC50: Pimephales promelas (fathead minnow) > 1,000 mg/l

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72 h EC50 : Pseudokirchneriella subcapitata (green algae) 61 mg/l
48 h EC50: Daphnia magna (Water flea) > 1,000 mg/l
Biodegradability : Pigments are practically not biodegradable.
Bioaccumulation : Does not bioaccumulate.

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DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Discharge, treatment or disposal is subject to national, state, or local laws.

When a decision is made to discard this material as supplied, it meets RCRA's characteristic definition of ignitability.

The toxicity characteristic (TC) has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

Federal Regulations may apply to empty container. State and/or local regulations may be different.

Of the methods of disposal currently available, it is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability: (1) recycle or rework, if feasible; (2) incinerate at an authorized facility; or (3) treat at an acceptable waste treatment facility.

Be sure to contact the appropriate government environmental agencies if further guidance is required

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TRANSPORT INFORMATION

UN1263, Paint, 3, PGIII

Domestic (Land, DOT), International (Water, IMO/IMDG), International (Air, ICAO)

Road and Rail (ADR/RID), Air (ICAO/IATA), Vessel (IMO/IMDG):

DOT (USA) Shipping Name: Paint

UN/NA ID No: UN1263

Hazard Class: Class 3 (IATA/49CFR)

Packing Group: III

Environmental Hazards:

INFORMATION NOT AVAILABLE.

Marine Pollutant:

Components of this product do not appear on the list of Marine Pollutants (49CFR 172.101)

Special Precautions for User:

INFORMATION NOT AVAILABLE.

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15	REGULATORY INFORMATION
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Component (CAS#) [%] - CODES

Nepheline syenite, manganese zirconium brown (68187-64-4) [25-30%] TSCA

Silica, crystalline quartz (14808-60-7) [15-20%] GADSL, MASS, NRC, OSHAWAC, PA, TSCA, TXAIR

Aluminum oxide (Al₂O₃) (1344-28-1) [10-15%] MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

1-Methoxy-2-propanol (107-98-2) [0-2%] HAP, MASS, OSHAWAC, PA, TSCA, TXAIR

Benzene, 1-chloro-4-(trifluoromethyl)- (98-56-6) [10-15%] TSCA

Fatty acids, dehydrated castor-oil, polymers with bisphenol A, p-tert-butylbenzoic acid, epichlorohydrin and tall-oil fatty acids (68552-26-1) [8-12%] TSCA

RQ(100LBS), Xylene (1330-20-7) [5-10%] CERCLA, CSWHS, EPCRAWPC, HAP, MASS, NJHS, OSHAWAC, PA, SARA313, TOXICRCRA, TSCA, TXAIR, TXHWL

Ethyl benzene (100-41-4) [1-2%] CERCLA, CSWHS, EPCRAWPC, HAP, MASS, NJHS, OSHAWAC, PA, PRIPOL, SARA313, TOXICPOL, TSCA, TXAIR

Titanium oxide (TiO₂) (13463-67-7) [0.5-1.5%] MASS, OSHAWAC, PA, TSCA, TXAIR

Regulatory CODE Descriptions

RQ = Reportable Quantity

TSCA = Toxic Substances Control Act

GADSL = Global Automotive Declarable Substance List (GADSL)

MASS = MA Massachusetts Hazardous Substances List

NRC = Nationally Recognized Carcinogens

OSHA WAC = OSHA workplace Air Contaminants

PA = PA Right-To-Know List of Hazardous Substances

TXAIR = TX Air Contaminants with Health Effects Screening Level

NJHS = NJ Right-to-Know Hazardous Substances

SARA313 = SARA 313 Title III Toxic Chemicals

HAP = Hazardous Air Pollutants

CERCLA = Superfund clean up substance

CSWHS = Clean Water Act Hazardous substances

EPCRAWPC = EPCRA Water Priority Chemicals

TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)

TXHWL = TX Hazardous Waste List

PRIPOL = Clean Water Act Priority Pollutants

TOXICPOL = Clean Water Act Toxic Pollutants

16	OTHER INFORMATION
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