



Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

#### **SECTION 1. IDENTIFICATION**

Product name : Starblast™ Blasting Abrasives

SDS-Identcode : 130000030937

## Manufacturer or supplier's details

Company name of supplier : The Chemours Company FC, LLC

Address : 1007 Market Street

Wilmington, DE 19801 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-

773-2000); Transport emergency: +1-800-424-9300 (outside

the U.S. +1-703-527-3887)

#### Recommended use of the chemical and restrictions on use

Recommended use : Abrasive blasting

Sand blasting

Restrictions on use : For industrial use only.

#### **SECTION 2. HAZARDS IDENTIFICATION**

# GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

#### **GHS** label elements

Not a hazardous substance or mixture.

#### Other hazards

None known.

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Staurolite#	12182-56-8	>= 70 - < 90
Leucoxene	12173-81-8	>= 5 - < 10
Zircon	14940-68-2	>= 1 - < 5
Quartz	14808-60-7	>= 1 - < 5
Rutile (TiO2)	1317-80-2	>= 1 - < 5

<sup>#</sup> Voluntarily-disclosed substance

Actual concentration is withheld as a trade secret





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

**SECTION 4. FIRST AID MEASURES** 

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.

Get medical attention if symptoms occur.

In case of eye contact : Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

If swallowed, DO NOT induce vomiting.

Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Most important symptoms

and effects, both acute and

delayed

irritant effects

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically and supportively.

**SECTION 5. FIRE-FIGHTING MEASURES** 

Suitable extinguishing media : Not applicable

Will not burn

Unsuitable extinguishing

media

Not applicable Will not burn

Specific hazards during fire

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod: :

ucts

No hazardous combustion products are known

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment

for fire-fighters

Wear self-contained breathing apparatus for firefighting if

necessary.

Use personal protective equipment.

**SECTION 6. ACCIDENTAL RELEASE MEASURES** 

Personal precautions, protec-:

tive equipment and emergency procedures

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable con-

tainer for disposal.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine

which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

#### **SECTION 7. HANDLING AND STORAGE**

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Handle in accordance with good industrial hygiene and safety

practice, based on the results of the workplace exposure as-

sessment

Conditions for safe storage : Keep in properly labeled containers.

Store in accordance with the particular national regulations.

Materials to avoid : No special restrictions on storage with other products.

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Leucoxene	12173-81-8	TWA	10 mg/m³ (Titanium dioxide)	ACGIH
Zircon	14940-68-2	TWA	5 mg/m³ (Zirconium)	OSHA Z-1
		TWA	5 mg/m³ (Zirconium)	ACGIH
		STEL	10 mg/m³ (Zirconium)	ACGIH
		TWA	5 mg/m³ (Zirconium)	NIOSH REL
		ST	10 mg/m³ (Zirconium)	NIOSH REL
Quartz	14808-60-7	TWA (Respirable dust)	0.05 mg/m³	OSHA Z-1
		TWA (respir-	10 mg/m3	OSHA Z-3





Version **Revision Date:** SDS Number: Date of last issue: 04/01/2022 09/21/2022 1597635-00021 Date of first issue: 04/28/2017 8.3

		able)	/ %SiO2+2	
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
		TWA (Respirable particulate matter)	0.025 mg/m³ (Silica)	ACGIH
		TWA (Res- pirable dust)	0.05 mg/m³ (Silica)	NIOSH REL
		PEL (respir- able)	0.05 mg/m³	OSHA CARC
Rutile (TiO2)	1317-80-2	TWA (Respirable particulate matter)	2.5 mg/m³ (Titanium dioxide)	ACGIH
		TWA (Res- pirable par- ticulate mat- ter)	0.2 mg/m³ (Titanium dioxide)	ACGIH

This substance(s) is not bioavailable and therefore does not contribute to a dust inhalation hazard.

Quartz

## **Engineering measures**

If using this product as an abrasive blast agent in confined areas, airborne dust levels should be controlled by physical enclosure of the abrasive blasting operation. The enclosure should be exhaust ventilated.

Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m3 - total dust, 5 mg/m3 - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m3 - respirable

particles, 10 mg/m3 - inhalable particles.

## Personal protective equipment

Respiratory protection

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release. exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material Protective gloves





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the pro-

duct. Change gloves often!

Eye protection : Wear the following personal protective equipment:

Safety glasses

Skin and body protection : Skin should be washed after contact.

Hygiene measures : If exposure to chemical is likely during typical use, provide

eye flushing systems and safety showers close to the wor-

king place.

When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : solid, dry, free flowing granules

Color : red brown

Odor : odorless

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : 2,498 °F / 1,370 °C

Initial boiling point and boiling

range

No data available

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : Will not burn

Not expected to form explosive dust-air mixtures.

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower : No data available





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

flammability limit

Vapor pressure : Not applicable

Relative vapor density : Not applicable

Relative density : 3.7

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : No data available

Decomposition temperature : The substance or mixture is not classified self-reactive.

Viscosity

Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle size : No data available

## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

None known.

Conditions to avoid : None known.

Incompatible materials : None.

Hazardous decomposition

products

No hazardous decomposition products are known.

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

## Information on likely routes of exposure

Skin contact Ingestion Eye contact

## **Acute toxicity**

Not classified based on available information.





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

**Product:** 

Acute inhalation toxicity

Remarks: The objective of the study was to compare the lung toxicity of a set of abrasive substitutes for silica dust (garnet, staurolite, coal slag, specular hematite, and treated sand) to that of blasting sand. Rats were intratracheally instilled with 2.5 or 10 mg/kg of the various test substances and pulmonary toxicity endpoints were measured at 4 weeks postexposure. The biomarkers included lung inflammation and cytotoxicity endpoints. In addition, the investigators measured alveolar macrophage activation. The results indicated that blasting sand produced evidence of pulmonary toxicity/inflammation and lung fibrosis. Garnet, staurolite, and treated sand exposures induced pulmonary hazard effects and inflammation that were viewed as similar to blasting sand, while coal slag instillation produced greater pulmonary damage and inflammation than blasting sand. In contrast, specular hematite did not significantly increased levels of inflammation and cytotoxicity and did not stimulate macrophage activation. [Hubbs AF et al., Toxicological Sciences volume 61: 135-143, 2001] The results of this study should be viewed as a preliminary, screeningtype pulmonary toxicity study which utilized very high, overload doses. Subsequently, the NIOSH researchers followed up on the Hubbs et al., study with another lung toxicity screening study of blasting agents ["Comparative pulmonary toxicity of blasting sand and five substitute abrasive blasting agents" -DW Porter et al., J Toxicol Environ Health A 65:1121-40, 2002]. The additional test substances included steel grit, copper slag, nickel slag, crushed glass and olivine. The authors reported that steel grit produced less lung toxicity than blasting sand or any of the other abrasive blasting substitutes

#### **Components:**

Staurolite:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Leucoxene:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 401

Remarks: Based on data from similar materials

Zircon:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.3 mg/l

Exposure time: 4 h





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Test atmosphere: dust/mist

Method: OECD Test Guideline 436

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Based on data from similar materials

Quartz:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Rutile (TiO2):

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 425

Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified based on available information.

**Components:** 

Leucoxene:

Species : Rabbit

Result : No skin irritation

Remarks : Based on data from similar materials

Zircon:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Rutile (TiO2):

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Information given is based on data obtained from similar sub-

stances.

Serious eye damage/eye irritation

Not classified based on available information.

**Components:** 

Leucoxene:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Zircon:

Species : Rabbit

Result : No eye irritation





## Starblast™ Blasting Abrasives

Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Remarks : Based on data from similar materials

Rutile (TiO2):

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

## Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

## Respiratory sensitization

Not classified based on available information.

#### **Components:**

#### Leucoxene:

Test Type : Buehler Test Routes of exposure : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

Remarks : Based on data from similar materials

Zircon:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Remarks : Based on data from similar materials

Rutile (TiO2):

Routes of exposure : Skin contact Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Remarks : Based on data from similar materials

#### Germ cell mutagenicity

Not classified based on available information.

#### Components:

#### Leucoxene:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay)





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Remarks: Based on data from similar materials

Zircon:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: inhalation (dust/mist/fume)

Result: negative

Remarks: Based on data from similar materials

Rutile (TiO2):

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

#### Carcinogenicity

Not classified based on available information.

#### **Components:**

Zircon:

Species : Rat
Application Route : Ingestion
Exposure time : 103 weeks
Result : negative

Remarks : Based on data from similar materials

Quartz:

Species : Humans

Application Route : inhalation (dust/mist/fume)

Result : positive

Remarks : This substance(s) is not bioavailable and therefore does not

contribute to a dust inhalation hazard.

Carcinogenicity - Assess-

ment

Positive evidence from human epidemiological studies (inhala-

tion)

Rutile (TiO2):

Carcinogenicity - Assess-

Weight of evidence does not support classification as a carcinogen

ment

IARC Group 1: Carcinogenic to humans

Quartz 14808-60-7

(Silica dust, crystalline)





Version **Revision Date:** SDS Number: Date of last issue: 04/01/2022 09/21/2022 1597635-00021 Date of first issue: 04/28/2017 8.3

Group 2B: Possibly carcinogenic to humans

Rutile (TiO2) 1317-80-2

**OSHA** OSHA specifically regulated carcinogen

14808-60-7

(crystalline silica)

**NTP** Known to be human carcinogen

> 14808-60-7 Quartz

(Silica, Crystalline (Respirable Size))

Reproductive toxicity

Not classified based on available information.

**Components:** 

Zircon:

Effects on fetal development Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Rutile (TiO2):

Reproductive toxicity - As-

Weight of evidence does not support classification for reprosessment

ductive toxicity

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Components:

Zircon:

inhalation (dust/mist/fume) Routes of exposure

No significant health effects observed in animals at concentra-Assessment

tions of 0.2 mg/l/6h/d or less.

Quartz:

: inhalation (dust/mist/fume) Routes of exposure

Target Organs Lungs

Assessment Shown to produce significant health effects in animals at con-

centrations of 0.02 mg/l/6h/d or less.

Rutile (TiO2):

Assessment No significant health effects observed in animals at concentra-

tions of 100 mg/kg bw or less.





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

#### Repeated dose toxicity

## **Components:**

Leucoxene:

Species : Rat

NOAEL : > 100 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Remarks : Based on data from similar materials

Zircon:

Species : Rat

NOAEL :  $> 100.8 \text{ mg/m}^3$ 

Application Route : inhalation (dust/mist/fume)

Exposure time : 30 Days

Remarks : Based on data from similar materials

Quartz:

Species : Humans LOAEL : 0.053 mg/m³

Application Route : inhalation (dust/mist/fume)

Remarks : This substance(s) is not bioavailable and therefore does not

contribute to a dust inhalation hazard.

Rutile (TiO2):

Species : Rat

Exposure time : 28 d

Remarks : No significant adverse effects were reported

Based on data from similar materials

#### **Aspiration toxicity**

Not classified based on available information.

## **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

#### **Components:**

Leucoxene:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): > 100

mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Zircon:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

NOEC (Chlorella vulgaris (Fresh water algae)): > 200 mg/l

Exposure time: 15 d

Remarks: Based on data from similar materials

Quartz:

**Ecotoxicology Assessment** 

Acute aquatic toxicity : No toxicity at the limit of solubility.

Chronic aquatic toxicity : No toxicity at the limit of solubility.

Rutile (TiO2):

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

ErC50 (algae): > 10,000 mg/l

Exposure time: 72 h

Remarks: Based on data from similar materials

NOEC (algae): 5,600 mg/l Exposure time: 72 h

Remarks: Based on data from similar materials

Persistence and degradability

No data available

**Bioaccumulative potential** 

**Components:** 

Rutile (TiO2):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Based on data from similar materials

## Starblast™ Blasting Abrasives



Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

Mobility in soil

No data available

Other adverse effects

No data available

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste

handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

#### **SECTION 14. TRANSPORT INFORMATION**

#### International Regulations

#### **UNRTDG**

Not regulated as a dangerous good

**IATA-DGR** 

Not regulated as a dangerous good

**IMDG-Code** 

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

**Domestic regulation** 

49 CFR

Not regulated as a dangerous good

Special precautions for user

Not applicable

#### **SECTION 15. REGULATORY INFORMATION**

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **US State Regulations**

## Pennsylvania Right To Know

Staurolite	12182-56-8
Tourmaline	1317-93-7
Leucoxene	12173-81-8
Quartz	14808-60-7
Rutile (TiO2)	1317-80-2

#### California Prop. 65

WARNING: This product can expose you to chemicals including Quartz, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

#### California List of Hazardous Substances

Zircon	14940-68-2

## **California Permissible Exposure Limits for Chemical Contaminants**

Zircon	14940-68-2
Quartz	14808-60-7

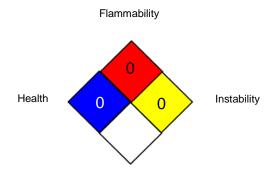
## **California Regulated Carcinogens**

Quartz 14808-60-7

## **SECTION 16. OTHER INFORMATION**

#### **Further information**

## NFPA 704:



Special hazard

#### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Starblast™ and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC.

Chemours™ and the Chemours Logo are trademarks of The Chemours Company.





Version **Revision Date:** SDS Number: Date of last issue: 04/01/2022 09/21/2022 1597635-00021 Date of first issue: 04/28/2017 8.3

Before use read Chemours safety information.

For further information contact the local Chemours office or nominated distributors.

Do not use or resell Chemours™ materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by Seller in a written agreement covering such use. For further information, please contact your Chemours representative.

The stated hazards of this material are based on non-inhalable particles that are the bulk fraction of the delivered product. However, if during handling or use the particles are broken down to the inhalable or respirable size range, the dusts may be harmful to the respiratory system. Inhalable quartz is an IARC Category 1 carcinogen and applicable exposure limits should be referenced. This product contains Naturally Occurring Radioactive Materials (NORMs) at levels below U.S. Nuclear Regulatory Commission licensing requirements at 10 CFR 40. Many local jurisdictions are developing new regulations for the disposal of waste containing Naturally Occurring Radioactive Materials (NORM) or Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) above background levels. Consult and comply with current regulations.

For a total dust with aerodynamic diameter of 1 um, the calculated reference dust level is 6.9 mg/m3. For a total dust with aerodynamic diameter of 5 um, the calculated reference dust level is 10.8 mg/m3. For a total dust with aerodynamic diameter of 10 um, the calculated reference dust level is 15.9 mg/m3.

#### Full text of other abbreviations

**ACGIH** USA, ACGIH Threshold Limit Values (TLV) NIOSH REL USA. NIOSH Recommended Exposure Limits

OSHA CARC OSHA Specifically Regulated Chemicals/Carcinogens OSHA Z-1

USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

OSHA Z-3 USA. Occupational Exposure Limits (OSHA) - Table Z-3 Min-

eral Dusts

ACGIH / TWA 8-hour, time-weighted average ACGIH / STEL Short-term exposure limit

NIOSH REL / TWA Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

OSHA CARC / PEL Permissible exposure limit (PEL) OSHA Z-1 / TWA 8-hour time weighted average OSHA Z-3 / TWA 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada): ECx - Concentration associated with x% response: EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC -International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to





Version Revision Date: SDS Number: Date of last issue: 04/01/2022 8.3 09/21/2022 1597635-00021 Date of first issue: 04/28/2017

50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety

**Data Sheet** 

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Revision Date : 09/21/2022

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8