

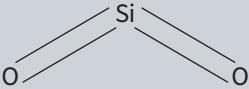
Substance Safety Summary

SUBSTANCE: Silicon Dioxide

GENERAL STATEMENT

This summary is intended to provide a general overview of the chemical substance listed above. This information in the summary is general information about the chemical properties and hazards posed to humans and the environment. Additional information is available through the relevant Safety Data Sheet (SDS). The substance, Silicon dioxide is of inorganic origin. Silicon dioxide is a natural compound of silicon and oxygen found mostly in sand. Silicon dioxide is mostly obtained by mining, including sand mining and purification of quartz. Quartz, or crystalline silica, is suitable for many purposes, while production via chemical processing is required to make a purer or otherwise more suitable product (e.g. more reactive or with lower particle size).

CHEMICAL IDENTITY

CATEGORY	DETAIL
EC Number	231-545-4
CAS Number	7631-86-9
Chemical Name	Silicon Dioxide (SiO ₂)
Structural Formula	

USES AND APPLICATIONS

SiO₂ is used as a reinforcement and thickening agent in various agents. It is also used as an adsorbing agent in dry powder systems to enhance flow properties.

PHYSICAL/CHEMICAL PROPERTIES

PROPERTY	DETAIL
Physical State	Solid
Form	Powder
Color	White
Odor	Odorless
Melting Point	>1700°C
Boiling Point	>1700°C
Bulk Density	Typically 50–600 g/L
Water Solubility	15–68 mg SiO ₂ /L at 20°C
Self-Ignition Temperature	Not combustible
Flammability	Non-flammable
Explosiveness	Non-explosive
Oxidizing Properties	Expected to be non-oxidizing

HEALTH EFFECTS

	HUMAN HEALTH SAFETY ASSESSMENT
Consumer	No human health hazard has been identified relating to this substance.
Worker	When the substance is handled properly (refer to SDS), there is no identified risk to humans. The usual precautions, occupational exposure limits for inert dusts, industrial hygiene and occupational safety measure for handling chemicals should be observed.

EFFECT ASSESSMENT	RESULT
Acute Toxicity/ Oral Inhalation/Dermal	Not acutely toxic after oral and dermal exposure. Not considered as acutely toxic by inhalation.
Irritant Effect on Skin and Eyes	Not considered as irritating to skin and eyes.
Sensitization	Not considered as sensitizing to skin
Toxicity after Repeated Exposure	No adverse effect after oral repeated exposure or via dermal route. Not considered to be toxic after repeated exposure via inhalation route.
Genotoxicity/Mutagenicity	Not considered as mutagenic
Carcinogenicity	Not considered as carcinogenic
Toxicity for Reproduction	Not considered as toxic for reproduction

ENVIRONMENTAL EFFECTS

No environmental classification is proposed since no adverse effects have been observed in the ecotoxicological testing.

FATE	BEHAVIOR
Biodegradation	Not possible as substance is inorganic
Bioaccumulation Potential	Low bioaccumulation potential expected
PBT/vPvB Conclusion	The substance is not a PBT/ vPvB substance

EFFECT ASSESSMENT	RESULT
Aquatic Toxicity	Not expected to be harmful to aquatic species
Daphnia Toxicity	Not acutely toxic to daphnia
Bacteria Toxicity	Not expected to be toxic to bacteria

EXPOSURE

	HUMAN HEALTH SAFETY ASSESSMENT
Human Health	No human health hazard was identified. Exposure of personnel in manufacturing facilities is considered very low because the process, storage, and handling operations are under industrial hygiene considerations and occupational safety measures.
Environment	As the substance is neither classified as dangerous nor is assessed to be a PBT or vPvB substance, no environmental exposure assessment has to be performed.

RISK MANAGEMENT RECOMMENDATION

The substance is not classified as dangerous. Always apply technical measures and use personal protective equipment as recommended in the SDS to minimize exposure. Observe the usual industrial hygiene measures. Remove soiled or soaked clothing immediately. Wash hands before break and after work.

SIGNAL WORD (IN ACCORDANCE WITH 29 CFR 1910.1200)

No signal word.

CONCLUSION

The assessment has revealed that the substance is considered to be safe for the above described uses and applications.

COMPANY CONTACT INFORMATION

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