SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	H-W LT WT CASTABLE 30
Registration number	-
Synonyms	None.
Brand Code	1533
Issue date	08-August-2014
Version number	01

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	For Industrial Use Only
Uses advised against	Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	ANH Refractories Company	
Address	400 Fairway Drive Moon Township, PA 15108, USA United States	
Division		
Telephone	General Phone: CHEMTREC 24 HOUR EMERGENCY # INTERNATIONAL #	412-375-6600 1-800-424-9300 1-703-527-3887
e-mail	REACH@anhrefractories.com	
Contact person	ANH USA	

1.4. Emergency telephone number Not available.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classificatio applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

This preparation does not meet the criteria for classification according to Directive 1999/45/EC as amended

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Carcinogenicity	Category 1A	H350 - May cause cancer.

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
Environmental hazards	Not classified for hazards to the environment.
Specific hazards	Prolonged exposure may cause chronic effects.
Main symptoms	Not available.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Cristobalite, Quartz (SiO2), Titanium dioxide

Hazard pictograms

Signal word Danger

Hazard statements

H350 May cause cancer.

Precautionary statements

Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood
P281 Use personal protective equipment as required.

Response

P308 + P313 IF exposed or concerned: Get medical advice/attention.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations
P501 Dispose of contents/container to

Supplemental label information Not applicable.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3,2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Aluminium Oxide (Non-Fibrous)	10 - < 20	1344-28-1 215-691-6	01-2119529248-35-0134	-	
Classification: **DSD:** -					
CLP: -					
Cement, Alumina, Chemicals	10 - < 20	65997-16-2 266-045-5	-	-	
Classification: **DSD:** -					
CLP: -					
Cristobalite	5 - < 10	14464-46-1 238-455-4	-	-	
Classification: **DSD:** -					
CLP: Carc. 1A;H350					
Expanded Perlite	3 - < 5	93763-70-3 -	-	-	
Classification: **DSD:** -					
CLP: Aquatic Chronic 4;H413					
Quartz (SiO2)	1 - < 3	14808-60-7 238-878-4	-	-	
Classification: **DSD:** -					
CLP: Carc. 1A;H350					

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Titanium dioxide	1 - < 3	13463-67-7 236-675-5	-	-	

Classification: **DSD:** -

CLP: Carc. 2;H351

Other components below reportable levels 50 - < 60

CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.
M: M-factor
vPvB: very persistent and very bioaccumulative substance.
PBT: persistent, bioaccumulative and toxic substance.
#: This substance has been assigned Community workplace exposure limit(s).

SECTION 4: First aid measures

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact Get medical attention if irritation develops and persists.

Ingestion If ingestion of a large amount does occur, call a poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed Direct contact with eyes may cause temporary irritation.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

Special fire fighting procedures Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

6.4. Reference to other sections For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	MAK	5 mg/m3	Respirable fraction.
		5 mg/m3	Respirable fume.
		10 mg/m3	Inhalable fraction.
	STEL	20 mg/m3	Inhalable fraction.
		10 mg/m3	Respirable fraction.
		10 mg/m3	Respirable fume.
Cristobalite (CAS 14464-46-1)	MAK	0,15 mg/m3	Respirable dust.
Expanded Perlite (CAS 93763-70-3)	MAK	5 mg/m3	Inhalable dust.
	STEL	10 mg/m3	Inhalable dust.
Quartz (SiO2) (CAS 14808-60-7)	MAK	0,15 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	MAK	5 mg/m3	Respirable dust.
	STEL	10 mg/m3	Respirable dust.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Cristobalite (CAS 14464-46-1)	TWA	0,05 mg/m3	Respirable dust.
Expanded Perlite (CAS 93763-70-3)	TWA	10 mg/m3	
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	10 mg/m3	Dust.
		1,5 mg/m3	Respirable fraction.
Expanded Perlite (CAS 93763-70-3)	TWA	6 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.
Kyanite (CAS 1302-76-7)	TWA	2 mg/m3	
Mullite (CAS 1302-93-8)	TWA	2 mg/m3	
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,07 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	Respirable dust.

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Cristobalite (CAS 14464-46-1)	MAC	0,05 mg/m3	
Quartz (SiO2) (CAS 14808-60-7)	MAC	0,1 mg/m3	
Titanium dioxide (CAS 13463-67-7)	STEL	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	0,1 mg/m3	Respirable dust.
Cristobalite (CAS 14464-46-1)	TWA	0,1 mg/m3	Respirable dust.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, An. 2 & 3

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TLV	5 mg/m3	Total
		2 mg/m3	Respirable.
Cristobalite (CAS 14464-46-1)	TLV	0,15 mg/m3	Total
		0,05 mg/m3	Respirable.
Quartz (SiO2) (CAS 14808-60-7)	TLV	0,3 mg/m3	Total
		0,1 mg/m3	Respirable.
Titanium dioxide (CAS 13463-67-7)	TLV	6 mg/m3	

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Cristobalite (CAS 14464-46-1)	TWA	0,05 mg/m3	Respirable dust.
Kyanite (CAS 1302-76-7)	TWA	2 mg/m3	
Mullite (CAS 1302-93-8)	TWA	2 mg/m3	
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0,05 mg/m3	Respirable.
Kyanite (CAS 1302-76-7)	TWA	2 mg/m3	
Mullite (CAS 1302-93-8)	TWA	2 mg/m3	

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,05 mg/m3	Respirable.

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	VME	10 mg/m3	
Cristobalite (CAS 14464-46-1)	VME	0,05 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	VME	0,1 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	VME	10 mg/m3	

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	4 mg/m3	Inhalable dust.
		1,5 mg/m3	Respirable dust.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	AGW	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Titanium dioxide (CAS 13463-67-7)	AGW	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	5 mg/m3	Inhalable
		10 mg/m3	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Inhalable

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	6 mg/m3	Respirable.
Cristobalite (CAS 14464-46-1)	TWA	0,15 mg/m3	Respirable.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,15 mg/m3	Respirable.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	10 mg/m3	
Cristobalite (CAS 14464-46-1)	TWA	0,15 mg/m3	Total dust.
		0,05 mg/m3	Respirable dust.
Kyanite (CAS 1302-76-7)	TWA	2 mg/m3	
Mullite (CAS 1302-93-8)	TWA	2 mg/m3	
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,3 mg/m3	Total dust.
		0,1 mg/m3	Respirable dust.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	6 mg/m3	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Cristobalite (CAS 14464-46-1)	TWA	0,1 mg/m3	Respirable dust.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.

Italy. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Cristobalite (CAS 14464-46-1)	TWA	0,025 mg/m3	Respirable fraction.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m3	Respirable fraction.
Mullite (CAS 1302-93-8)	TWA	1 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,025 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	6 mg/m3	Decomposition aerosol.
		4 mg/m3	
Kyanite (CAS 1302-76-7)	TWA	2 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	5 mg/m3	Inhalable fraction.
		2 mg/m3	Respirable fraction.
Cristobalite (CAS 14464-46-1)	TWA	0,05 mg/m3	Respirable fraction.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m3	
Mullite (CAS 1302-93-8)	TWA	1 mg/m3	
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	

Netherlands. OELs (binding)

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0,075 mg/m3	Respirable dust.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,075 mg/m3	Respirable dust.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TLV	10 mg/m3	
Cristobalite (CAS 14464-46-1)	TLV	0,15 mg/m3	Total dust.
		0,05 mg/m3	Respirable dust.
Expanded Perlite (CAS 93763-70-3)	TLV	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Quartz (SiO2) (CAS 14808-60-7)	TLV	0,3 mg/m3	Total dust.
		0,1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TLV	5 mg/m3	

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	2,5 mg/m3	Fume, total dust.
		1,2 mg/m3	Respirable dust and/or fume.
Cristobalite (CAS 14464-46-1)	TWA	2 mg/m3	Total dust.
		0,3 mg/m3	Respirable dust.
Quartz (SiO2) (CAS 14808-60-7)	TWA	2 mg/m3	Total dust.
		0,3 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	STEL	30 mg/m3	
	TWA	10 mg/m3	Total dust.

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	10 mg/m3	
Cristobalite (CAS 14464-46-1)	TWA	0,025 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,025 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	STEL	5 mg/m3	Aerosol
		1,2 ppm	Aerosol
	TWA	2 mg/m3	Aerosol
		0,5 ppm	Aerosol
Titanium dioxide (CAS 13463-67-7)	STEL	15 mg/m3	
	TWA	10 mg/m3	

Slovakia. OELs for carcinogens and mutagens. Regulation No. 46/2002 on carcinogenic and mutagenic substances

Components	Type	Value	Form
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
		0,1 mg/m3	
Cristobalite (CAS 14464-46-1)	TWA	0,1 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0,15 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,15 mg/m3	Respirable fraction.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	10 mg/m3	
Cristobalite (CAS 14464-46-1)	TWA	0,05 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	5 mg/m3	Total dust.
		2 mg/m3	Respirable dust.
Cristobalite (CAS 14464-46-1)	TWA	0,05 mg/m3	Respirable dust.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m3	Total dust.
Mullite (CAS 1302-93-8)	TWA	1 mg/m3	Total dust.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	STEL	24 mg/m3	Fume and respirable dust.
	TWA	3 mg/m3	Respirable dust.
		3 mg/m3	Fume and respirable dust.
Cristobalite (CAS 14464-46-1)	TWA	0,15 mg/m3	Respirable dust.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,15 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0,1 mg/m3	Respirable.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable.
		10 mg/m3	Inhalable

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide adequate general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Use personal protective equipment as required.

Skin protection

- Hand protection Use personal protective equipment as required.

- Other Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory protection Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Colour Not available.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.

Solubility(ies)

Solubility (water)	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	None known.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Acids. None known. Chlorine. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure. Contact your sales representative for clarification.
10.6. Hazardous decomposition products	No dangerous reaction known under conditions of normal use.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects

Information on likely routes of exposure

Ingestion	Not available.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	Not available.
Eye contact	Not available.
Symptoms	Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

Acute toxicity	No data available.
Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Due to partial or complete lack of data the classification is not possible.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.

Carcinogenicity	In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline 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..." (SCOEL SUM Do(94-final, June 2003) May cause cancer. According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cristobalite (CAS 14464-46-1)	1 Carcinogenic to humans.
Quartz (SiO2) (CAS 14808-60-7)	1 Carcinogenic to humans.
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible
Mixture versus substance information	No information available.
Other information	Not available.
Aquatic toxicity	Not available.
12.5. Results of PBT and vPvB assessment	Not available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
12.5. Results of PBT and vPvB assessment	Not available.
12.6. Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Not available.
Contaminated packaging	Not available.
EU waste code	Not available.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, Article 59(1). Candidate List

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use

Not regulated.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations	The product is classified and labelled in accordance with EC directives or respective national laws This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006
National regulations	Follow national regulation for work with chemical agents.
15.2. Chemical safety assessment	No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations	Not available.
References	Not available.
Information on evaluation method leading to the classification of mixture	Not available.
Full text of any statements or R-phrases and H-statements under Sections 2 to 15	H350 May cause cancer. H351 Suspected of causing cancer. H413 May cause long lasting harmful effects to aquatic life.
Revision information	None.

Training information	Not available.
Disclaimer	This information is based on our present knowledge on creation date. However, this shall no constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.