DYHARD® 100S

Version 6.9 / GB	Specification: 131654	Date of first issue: 09.01.2023
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	DYHARD® 100S
Product code	:	000000000050001043
Registration number	:	if available listed in Chapter. 3
Unique Formula Identifier (UFI)	:	FJE0-90R7-8000-KVV7

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

Use of the Substance/Mixture	:	Raw material for the industrial manufacturing of coating materials, adhesives, sealing agents, and composite materials

1.3 Details of the supplier of the safety data sheet

Company	:	Alzchem Trostberg GmbH Dr.-Albert-Frank-Str. 32 83308 Trostberg, Germany
Telephone	:	+49 8621 86-3351
E-mail address of person responsible for the SDS	:	alz-pst@alzchem.com

1.4 Emergency telephone number

Emergency telephone number	:	+49 8621 86-2776 Alzchem Trostberg GmbH, Fire Brigade

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019)

No labelling required

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Caution micronized powder! High respirable fraction of particulates.
If dust occurs:
Mechanical irritation of skin and mucous linings of eyes and respiratory tract may occur.
Dust may form explosive mixture in air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
cyanoguanidine	461-58-5 207-312-8 01-2119474914-28-0000	not classified	>= 95 - <= 99
silicon dioxide, amorphous	7631-86-9 231-545-4 01-2119379499-16-XXXX	not classified	>= 2 - <= 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Seek medical advice in case of symptoms caused by eye or skin contact, inhalation or swallowing.

If inhaled : See that there is fresh air.
Possible discomfort: cough, sneezing

In case of skin contact : Wash off with plenty of water and soap.

In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray, foam, CO2, dry powder.

Unsuitable extinguishing media : high volume water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Ammonia
Hydrocyanic acid (HCN)
Silicon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment; see section 8.
Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions : Product or extinguishing water with product must not be allowed to enter soil, sewers or natural bodies of water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Remove all sources of ignition.
Use mechanical handling equipment.
Avoid dust formation.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
Provide sufficient ventilation and exhaust at the workplace.
Do not allow accumulation of dust.

Advice on protection against fire and explosion	:	Formation of flammable or explosive dust/air mixtures possible. If dusts are formed: Keep away from sources of ignition - no smoking. Take measures to prevent the build up of electrostatic charge. ignition energy >1000mJ maximum absolute explosive pressure ca. 9,9 bar
Hygiene measures	:	Do not breathe dust. Avoid contact with skin, eyes and clothing. Take off clothing and shoes contaminated with product. Clean before reuse. Do not eat, drink or smoke during use. Wash hands before breaks and at the end of workday. Keep away from food, drink and animal feedingstuffs.
Dust explosion class	:	St1

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep in a dry place.
Packaging material	:	Suitable material: Polypropylene, paper bags with polyethylene liner

7.3 Specific end use(s)

Specific use(s)	:	We are unaware of any specific end uses which go beyond the data reported in Section 1.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
silicon dioxide, amorphous	7631-86-9	TWA (inhalable dust)	6 mg/m3 (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits,			

	depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	2.4 mg/m3 (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
cyanoguanidine	Industrial use	Inhalation	Long-term systemic effects	15.3 mg/m3
	Industrial use	Inhalation	Acute systemic effects	76.5 mg/m3
	Industrial use	dermal	Long-term systemic effects	30.1 mg/kg bw/day
silicon dioxide, amorphous				
	Remarks:not necessary (not classified)			

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
cyanoguanidine	Fresh water	2.5 mg/l
	Marine water	0.25 mg/l

	sewage treatment plant	34 mg/l
	Fresh water sediment	5.83 mg/kg
	Marine sediment	0.58 mg/kg
	soil	0.25 mg/kg
silicon dioxide, amorphous		
	Remarks:not necessary (not classified)	

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

Personal protective equipment

Eye/face protection : Safety glasses

Hand protection

Material	:	Nitrile rubber, Recommendation: Dermatril 740
Break through time	:	480 min
Glove thickness	:	0.11 mm
Directive	:	DIN EN 374
Manufacturer	:	Kächele-Cama Latex GmbH (KCL), Germany

Material	:	Nitrile rubber, Recommendation: Camatril 730
Break through time	:	480 min
Glove thickness	:	0.4 mm
Directive	:	DIN EN 374
Manufacturer	:	Kächele-Cama Latex GmbH (KCL), Germany

Skin and body protection : Long sleeved clothing

Respiratory protection : not required under normal use
Use suitable respiratory protection in the presence of dust.
Recommendation: Dust mask FFP3 or P3 particle filter

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	powder
Colour	:	white
Odour	:	odourless
pH	:	no data available
Melting point/range	:	209 - 211 °C Decomposition: yes
Flash point	:	Not applicable
Burning number	:	Method: Combustibility test in accordance with VDI 2263 BZ 1 - does not ignite.

Lower explosion limit / Lower flammability limit	:	100000 mg/m3 dust
Relative vapour density	:	Not applicable
Density	:	1.4 g/cm3 (20 °C)
Bulk density	:	300 - 500 kg/m3
Solubility(ies)		
Water solubility	:	32 g/l (20 °C)
Solubility in other solvents	:	30.02 g/l (20 °C) Solvent: methanol 6.32 g/l (20 °C) Solvent: Acetone 258.4 g/l (20 °C) Solvent: Dimethylformamide
Auto-ignition temperature	:	> 600 °C Ignition temperature for swirling (airborne) dust > 360 °C No burning at 360°C. Ignition temperature for deposited dust
Explosive properties	:	Dusts can form explosive mixtures with air.

9.2 Other information

Impact sensitivity	:	Not sensitive to rubbing Not impact sensitive.
Dust explosion class	:	St1
Minimum ignition energy	:	> 1000 mJ Main component

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No hazardous reactions are known if properly handled and stored.

10.4 Conditions to avoid

Conditions to avoid : Avoid dust formation.
Avoid heating for prolonged periods above melting point.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.
see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

cyanoguanidine:

Acute oral toxicity : LD50 (Rat): > 10000 mg/kg
Method: analogy OECD-method
Assessment: Based on available data, the classification criteria are not met.
Remarks: Own study, IUCLID

Acute inhalation toxicity : LC50 (Rat): > 0.259 mg/l
Exposure time: 4 h
Method: OECD Test Guideline 403
Assessment: Based on available data, the classification criteria are not met.
Remarks: maximum concentration in the test: no animals died.
Own study, IUCLID

Acute dermal toxicity : LD50 (Rabbit): > 2000 mg/kg
Method: OECD Guide-line 402
Assessment: Based on available data, the classification criteria are not met.
Remarks: Own study, IUCLID

silicon dioxide, amorphous:

Acute oral toxicity : LD50 (Rat): > 5000 mg/kg
Remarks: Literature, IUCLID

Acute inhalation toxicity : LC50 (rat): > 5.01 mg/l
Exposure time: 4 h
Remarks: Literature, IUCLID

Acute dermal toxicity	:	LD50 (rat): > 5000 mg/kg Remarks: Literature, IUCLID

Skin corrosion/irritation

Components:

cyanoguanidine:

Species	:	Rabbit
Exposure time	:	24 h
Method	:	analogy OECD-method
Result	:	No skin irritation
Remarks	:	Own study, IUCLID

silicon dioxide, amorphous:

Assessment	:	Based on available data, the classification criteria are not met.
Remarks	:	Literature, IUCLID

Serious eye damage/eye irritation

Components:

cyanoguanidine:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	FDA
Remarks	:	Own study, IUCLID

silicon dioxide, amorphous:

Assessment	:	Based on available data, the classification criteria are not met.
Remarks	:	Literature, IUCLID

Respiratory or skin sensitisation

Components:

cyanoguanidine:

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	not sensitizing to the skin
Remarks	:	Own study, IUCLID

silicon dioxide, amorphous:

Assessment	:	Based on available data, the classification criteria are not met.
Remarks	:	Literature, IUCLID

Germ cell mutagenicity

Components:

cyanoguanidine:

Genotoxicity in vitro	:	Test Type: Ames-test (Cytogenetic test) Test system: Salmonella typhimurium Method: OECD 471 Result: negative Remarks: Own study, IUCLID Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Method: OECD Test Guideline 473 Result: negative Remarks: Own study, IUCLID Test Type: Unscheduled DNA synthesis -test (UDS) Test system: rat hepatocytes Method: OECD Test Guideline 482 Result: negative Remarks: Own study, IUCLID
Germ cell mutagenicity- Assessment	:	Not mutagenic in a battery of in-vitro test systems. Remarks: Literature, IUCLID

silicon dioxide, amorphous:

Germ cell mutagenicity- Assessment	:	Based on available data, the classification criteria are not met. Remarks: Literature, IUCLID

Carcinogenicity

Components:

cyanoguanidine:

Carcinogenicity - Assessment	:	No evidence that cancer may be caused. Remarks: Literature, IUCLID

silicon dioxide, amorphous:

Carcinogenicity - Assessment	:	Based on available data, the classification criteria are not met. Remarks: Literature, IUCLID

Reproductive toxicity

Components:

cyanoguanidine:

Reproductive toxicity - Assessment	:	No indications of effects of reproductive / developmental toxicity. Remarks: Literature, IUCLID

silicon dioxide, amorphous:

Reproductive toxicity - Assessment	:	Based on available data, the classification criteria are not met. Remarks: Literature, IUCLID

STOT - single exposure

Components:

cyanoguanidine:

Assessment	:	Based on available data, the classification criteria are not met.
Remarks	:	Literature, IUCLID

silicon dioxide, amorphous:

Remarks	:	no data available

STOT - repeated exposure

Components:

cyanoguanidine:

Assessment	:	Based on available data, the classification criteria are not met.
Remarks	:	Literature, IUCLID

silicon dioxide, amorphous:

Remarks	:	no data available

Repeated dose toxicity

Components:

cyanoguanidine:

Remarks	:	Ninety-day feeding studies on rats and dogs did not reveal any adverse health effects. Own study

Aspiration toxicity

Components:

cyanoguanidine:

No data available

Experience with human exposure

Components:

cyanoguanidine:

Eye contact	:	Remarks: Product dust may cause temporary mechanical eye irritation.

Further information

Product:

Remarks : No additional toxicological data are available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

cyanoguanidine:

Toxicity to fish : LC50 (Oncorhynchus mykiss): 7700 mg/l
Exposure time: 96 h
Remarks: Own study, IUCLID

LC50 (Lepomis macrochirus): > 1000 mg/l
Exposure time: 96 h
Remarks: Own study, IUCLID

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 3177 mg/l
Exposure time: 48 h
Method: OECD 202
Remarks: Own study, IUCLID

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2040 mg/l
Exposure time: 96 h
Remarks: Own study, IUCLID

Toxicity to microorganisms : EC10 (Pseudomonas putida): 126.9 mg/l
Remarks: Own study, IUCLID

silicon dioxide, amorphous:

Toxicity to fish : (Brachydanio rerio): > 10000 mg/l
Exposure time: 96 h
Test Type: LC50
Method: OECD 203
Remarks: Literature, IUCLID

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1000 mg/l
Exposure time: 24 h
Method: OECD TG 202
Remarks: Literature, IUCLID

Toxicity to algae/aquatic plants : NOEC (Scenedesmus subspicatus): 10000 mg/l
End point: Biomass
Exposure time: 72 h
Method: OECD TG 201
Remarks: Literature, IUCLID

12.2 Persistence and degradability

Components:

cyanoguanidine:

Biodegradability : Result: Not biodegradable.
Exposure time: 28 d
Method: OECD 301 E

silicon dioxide, amorphous:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Components:

silicon dioxide, amorphous:

Bioaccumulation : Remarks: not determined

12.4 Mobility in soil

Components:

cyanoguanidine:

Distribution among environmental compartments : log Koc: 0.72
Method: Calculation, EPI Suite Software

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Additional ecological information : No tests were performed with this mixture.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Must be brought to an adequate waste treatment facility, in conformity with applicable waste disposal regulations.
Contaminated packaging	:	Packaging, that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations.

SECTION 14: Transport information

14.1 UN number

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.2 UN proper shipping name

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.4 Packing group

Remarks	:	Not classified as dangerous in the meaning of transport regulations.
ADR	:	Not regulated as a dangerous good
RID	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
Remarks	:	Not classified as dangerous in the meaning of transport regulations.
IATA (Cargo)	:	Not regulated as a dangerous good
Remarks	:	Not classified as dangerous in the meaning of transport regulations.

IATA (Passenger) : Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

15.2 Chemical safety assessment

No substance safety assessment is required for this product.

SECTION 16: Other information

Full text of other abbreviations

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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 sub-

stance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; 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

Further information

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN