

MATERIAL SAFETY DATA SHEET



According to (EO) 2020/878

NIVELOR CS-20

Revision date: 17.05.2022 r.

Issue: 2

Pages (number):10

1. Identification of the Substance/Mixture and of the Company

1.1. Product identifier – NIVELOR CS-20

UFI: YYWS-HOCV-9009-6SG3

1.2. Identified uses of the substance or mixture and uses advised against

Self-leveling cement-sulfate floor screed.

1.3. Details of the supplier of the safety data sheet

TERAZID Ltd.

5, 5004 Street, Gara Iskar1528 Sofia, Bulgaria

tel. +359 2 9799971, office@terazid.com

1.4. Emergency telephone number (EU)

112

UMHATEM "Pirogov" (toxicology):

+359 2/ 915 44 11

UMHATEM "Pirogov" (Emergency):

+359 2/ 915 42 33; +359 2/ 915 42 13

Workin hours – 24/7.

pirogov@pirogov.bg www.pirogov.eu

2. Hazards Identification

2.1. Classification of the substance or mixture

2.1.1. According to Regulation (EC) No 1272/2008 (CLP):

Skin Irrit. 2 - Causes skin irritation

Eye Dam. 1 - Causes serious eye damage

STOT SE 3 - May cause respiratory irritation

2.2. Label elements



Signal word: **Danger!**

Hazard statements:

H315 – Causes skin irritation.

H318 – Causes serious eye damage.

H335 – May cause respiratory irritation.

Precautionary statements:

P101 – If medical advice is needed, have product container or label at hand.

P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 – If skin irritation occurs: Get medical advice/attention.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

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The mixture contains Portland cement. It creates an alkaline environment when in contact with water. When stored properly, **it does not contain more than 0.0002% soluble Cr (VI) within the shelf life**. If storage conditions are inadequate or the product is past its expiration date, the Portland cement may cause skin sensitization (H317 or EUH203).

It may cause damage to materials made of aluminum or other non-noble metals.

3. Composition/information on ingredients

3.1 Substances - Not applicable.

3.2 Mixters

General chemical description: Dry mixture based on Portland cement, mineral fillers and modifying additives, not classified as dangerous according to Regulation (EC) 1272/2008 - CLP.

Информация за опасните съставки съгласно Регламент (EO) 1272/2008 – CLP:

CAS №	EU №	Name	Concentration % (weight)	Signal word	H-codes
1317-65-3	215-279-6	Calcium carbonate	≤ 75 %	Attention 	H315, H319
65997-15-1	266-043-4	Cement, portland	≤ 5 %	Danger 	H315, H317, H318, H335

4. First Aid Measures

4.1. Description of the first aid measures

General notes – No special protective equipment is required for first aid responders. Avoid contact with the moistened mixture.

Inhalation – Immediately move the affected person to fresh air. If symptoms persist, seek qualified medical assistance.

Skin contact – Rinse the affected area immediately with water, then wash thoroughly with soap and water. Remove contaminated clothing. If skin irritation persists, consult a physician.

Eye contact – Rinse thoroughly with running water for 15 minutes while keeping the eyelid open. Remove contact lenses if present. Continue rinsing with water. Do not rub the affected eye to avoid further damage to the cornea. Seek qualified medical assistance (ophthalmologist).

Ingestion – Rinse mouth thoroughly and drink plenty of water. Do not induce vomiting. Seek qualified medical assistance (toxicologist).

4.2. Most important symptoms and effects, both acute and delayed

This product contains cement. Contact between cement and bodily fluids (e.g. sweat, moisture from the eyes) may cause irritation or burns.

Prolonged inhalation of large amounts of dust may cause respiratory tract irritation and increase the risk of lung disease.

In contact with skin, the product may react with moisture (sweat) and cause irritation, significant inflammation, scabbing, swelling, and other effects.

In contact with eyes, the product may cause serious eye injury, such as corneal clouding or iris lesions.



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4.3. Indication of any immediate medical attention and special treatment needed – see p. 4.1.

In case of accident or if you feel unwell, seek medical advice immediately (show the label or safety data sheet if possible).

5. Firefighting Measures

NIVELOR CS-20 is non-combustible and non-explosive product.

5.1. Extinguishing media

The mixture is non-flammable and non-combustible in its delivered state, during application, and throughout its service life.

Suitable extinguishing media: Appropriate to the surrounding conditions and type of fire – water mist, spray jet, dry chemical, foam, carbon dioxide.

Unsuitable extinguishing media: None known.

5.2. Special hazards, arising from the substance or mixture

Unknown. The mixture is non-flammable and non-explosive

5.3. Advice for firefighters

Use appropriate breathing apparatus and compliant firefighting clothing. Collect contaminated water from firefighting separately to prevent it from entering drains. Move undamaged packages out of hazardous area if this can be done safely.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency staff

Wear personal protective equipment - gloves, masks, protective work clothing. Avoid contact with eyes and skin. Ensure adequate ventilation.

6.1.2. For emergency responders

Special measures are not required.

6.2. Environmental precautions

If the mixture enters an aqueous environment, it may cause the pH value to rise above 9, resulting in an environmental hazard. Measures should be taken to prevent contamination of surface water, groundwater, soil and discharge to sewers. Do not allow to enter the environment.

6.3. Methods and materials for containment and cleaning up

The released quantity to be removed mechanically, taking measures to prevent the formation of high concentrations of dust in the air. In the form of dust or unsolidified mixture, vacuum.

Collected quantities to be stored in special, tightly closing and marked containers and to be stored temporarily on the territory of the company. If reuse is not possible, they shall be handed over to persons holding a permit under the Waste Management Act (WMA).

7. Handling and Storage

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7.1. Precautions for safe handling

To be used only as intended. Do not eat, drink or smoke while working. Avoid dust generation and its euthalation. Ventilate the premises. Avoid contact with skin and eyes. Wash hands thoroughly after use. Avoid release of material into the environment and drains.

7.2. Conditions for safe storage, including any incompatibilities

Store in ventilated and dry areas, in well-closed original packaging. Store away from water or moisture. Keep separate from food and drink.

7.3. Specific Usage - There is no specific usage.

8. Exposure Controls/Personal Protection

8.1. Control parameters

Name	Impact	Permissible (limit) level	
Portland cement	respiratory tract	5 mg/m ³	respirable particulate matter in 8 hours

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Avoid dusting during use. Ensure adequate ventilation. Provide suitable dust extraction equipment.

8.2.2. Personal protective equipment

8.2.2.1. Eye and face protection		Avoid eye contact. Use protective goggles.
8.2.2.2. Skin protection		Avoid skin contact. Use alkali-resistant protective gloves. Wear boots and suitable long-sleeved clothing.
8.2.2.3. Respiratory protection		Avoid inhalation of dust. Use dust mask, filter (FFP2).

8.2.3. Environmental exposure control

No special measures are needed. Do not allow material to enter drains, surface water or groundwater. To observe dust during operation, in relation to the limit values.

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9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

- Aggregate state - solid (fine powder)
- Colour - grey
- Odour - no odour
- Melting point/freeze point - melting point > 1 250 °C
- Boiling point or initial boiling point - not applicable
- Flammability - the mixture is non-flammable (non-combustible)
- Lower and upper explosive limit - not applicable

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- h. Flash point - not applicable
- i. Auto-ignition temperature - not applicable
- j. Decomposition temperature - not applicable
- k. pH (20 °C, 10% aqueous dispersion) - approximately 12
- l. Kinematic viscosity - not applicable
- m. Solubility in water - slightly soluble
- n. n-Octanol/water partition coefficient - not applicable
- o. Vapour pressure - not applicable
- p. Density and/or relative density - approximately 1.7 g/cm³ (bulk density)
- q. Relative vapour density - not applicable

9.2. Other information – no data.

10. Stability and reactivity

10.1. Reactivity - Reacts alkaline with water. When mixed with water, the product solidifies into a stable mass that is not reactive under normal conditions.

10.2. Chemical Stability - The product is stable in storage and use as directed.

10.3. Potential for hazardous reactions - No potential for hazardous reactions.

10.4. Conditions to be avoided - Protect from moisture during storage and transport.

10.5. Incompatible Materials - Acids, ammonium salts, aluminum or other base metals. Reaction with base metals releases hydrogen.

10.6. Hazardous decomposition products - Does not decompose (decompose) to hazardous products.

11. Toxicological information

11.1. Information on the hazard classes defined by Regulation (EC) 1272/2008 - CLP

Acute toxicity (dermal): Limit test, rabbit, 24 hours contact, 2,000 mg/kg bw - no lethality. Based on the available data, the mixture is not classified in the Acute Toxicity (Dermal) category.

Acute toxicity (inhalation): Limit test, rat, 24 hours contact, 5 mg/m³ - no acute toxicity observed. Based on the available data, the mixture is not classified in the category Acute toxicity (inhalation).

Acute toxicity (oral): Limit test, rat, 6,450 mg/kg - no lethality. Based on the available data, the mixture is not classified in the category Acute Toxicity (Oral).

Corrosivity/skin irritation: Portland cement in the mixture, upon contact with wet skin, may cause roughening, cracking, or fissuring of the skin. Prolonged contact combined with friction may cause severe burns. In some individuals, exposure to wet cement dust may lead to eczema caused by high pH, which can trigger irritant contact dermatitis.

Serious eye damage/eye irritation: Portland cement in the mixture causes various reactions on the cornea, with a calculated irritation index of 128. The product may cause serious eye injury, such as corneal clouding or iris lesions. Direct contact with cement can cause corneal damage due to mechanical abrasion. Additionally, it may lead to irritation or inflammation that can occur immediately or later. Direct contact with large amounts of dry cement or splashes of wet cement can cause effects ranging from moderate eye irritation (e.g., conjunctivitis or blepharitis) to chemical burns and blindness.



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Respiratory or skin sensitization: Some individuals may develop eczema upon exposure to wet cement dust, caused either by the mixture's pH value or by an immunological reaction to soluble Cr (VI) — an allergic response. The outcome can manifest in various forms, ranging from mild rash to severe dermatitis.

The product does not contain soluble Cr (VI) in amounts greater than 0.0002% within the shelf life, therefore immunological reactions and allergic sensitization effects are not expected during this period.

There is no indication of respiratory sensitization. Based on available data, the mixture is not classified in the category "Respiratory sensitization."

Germ cell mutagenicity: No indication. Based on available data, the mixture is not classified in the category "Germ cell mutagenicity."

Carcinogenicity: There is no data indicating a direct link between Portland cement and cancer. Epidemiological literature does not classify cement as a presumed human carcinogen. Based on available data, the mixture is not classified in the category "Carcinogenicity."

Reproductive toxicity: Based on available data, the mixture is not classified in the category "Reproductive toxicity."

STOT – Specific Target Organ Toxicity (single exposure): Cement dust may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath can occur after exposure to concentrations exceeding occupational limits. Overall, the evidence clearly shows that occupational exposure to cement dust leads to impaired respiratory function. However, the currently available evidence is insufficient to reliably establish a dose-response relationship for these effects.

STOT – Specific Target Organ Toxicity (repeated exposure): Prolonged and repeated inhalation of calcium sulfate dust above the occupational exposure limit may cause cough, shortness of breath, and lung diseases. No chronic effects are observed at low concentrations. Based on available data, the mixture is not classified in the category "Specific Target Organ Toxicity (repeated exposure)."

Hazard by inhalation: Not applicable. The mixture is not an aerosol.

11.2. Additional information:

Prolonged exposure to the mixture may aggravate existing respiratory and/or medical conditions such as emphysema or asthma, and existing skin or eye conditions.

12. Environmental information

12.1. Toxicity - the product is not hazardous to the environment. Ecotoxicological test with Portland cement on water flea - *Daphnia magna* and on algae of the genus *Selenastrum* show little toxicological impact. Therefore LC50 and EC50 values cannot be determined.

The addition of large quantities to water, however, may cause a rise in pH and may therefore, under certain conditions, prove toxic to aquatic organisms.

12.2. Persistence and degradability: Not applicable. The mixture is an inorganic material. After curing, the mixture does not pose a toxic risk.

12.3. Bioaccumulative potential: Not applicable. The mixture is an inorganic material. After curing, the mixture does not pose a toxic risk.

12.4. Mobility in soil: Not applicable. The mixture is an inorganic material. After curing, the mixture does not pose a toxic risk.

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12.5. Results of PBT and vPvB assessment: Not applicable. The mixture does not meet the criteria for PBT (persistent, bioaccumulative, and toxic) or vPvB (very persistent and very bioaccumulative).

12.6. Endocrine-disrupting properties: Not applicable.

12.7. Other adverse effects - no data.

13. Waste disposal

13.1 Waste treatment methods

Do not discharge to sewers or surface waters. Do not treat as household waste.

Residual quantities or scattered dry material to be collected in special, tightly closing, labelled containers. Reuse is possible depending on shelf life considerations and the requirement to avoid exposure to dust.

Residual quantities of dry material may be mixed with water, avoiding any skin contact, and treated as concrete waste after curing. As a consequence of inertisation, concrete waste is not hazardous. It should be stored temporarily and then handed over to persons holding a permit under Article 37 of the Waste Management Act (Journal of Laws No 53 of 2012).

Product packaging to be emptied completely and treated as paper packaging waste.

EWC - European waste codes:

10 13 06 – Dust and powder particles.

10 13 14 – Waste concrete and concrete sludge.

15 01 01 – Paper and cardboard packaging waste.

14. Transport information

Not dangerous goods according to RID, ADR, ADN, IMDG, IATA-DGR and no classification is required.

To be transported in accordance with the rules of carriage applicable to the mode of transport and ensuring the safety of the cargo.

No special precautions are necessary, except those mentioned in point 8.

14.1. UN list number or identification number - not applicable.

14.2. Exact name of the shipment according to the UN list - not applicable.

14.3. Transport hazard class(es) - not applicable.

14.4. Packing group - not applicable.

14.5. Environmental hazards - not applicable.

14.6. Special precautions for users - not applicable.

14.7. Marine bulk cargo transport according to International Maritime Organization instruments – not applicable.

15 Regulatory information

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

The product is classified as a mixture according to REACH and is not subject to registration. The mixture contains Portland cement. It does not contain soluble Cr (VI) in amounts greater than 0.0002% within the shelf life (REACH, Annex XVII, Entry 47).

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National legislation:

- Law of Protection from the Harmful Impact of the Chemical Substances and Preparations.
- Environmental Protection Law.
- Health and Safety at Work Act.
- Ordinance №3 on the minimum requirements for safety and protection of the workers when using personal protective equipment at the workplace.
- Waste Management Act.
- Ordinance №2 from 23.07.2014 for Waste Classification.
- Ordinance on the order and the method of classification, labeling and packaging of chemical substances and preparations.

European legislation:

- Regulation (EU) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Regulation (EO) 1272/2008 – CLP from 16th December 2008, concerning the classification, labelling and packaging of substances and preparations.
- Regulation (EC) 2020/878 of 18 June 2020 amending Annex II to (REACH).

15.2. Safety assessment of the chemical substance.

No safety assessment has been carried out for the mixture.

16. Other information

16.1. Indication of changes

Format in accordance with **Regulation (EU) 2020/878** of 18 June 2020 amending Annex II to **Regulation (EC) 1907/2006** of the European Parliament and of the Council (REACH).

The mixture is classified according to **Regulation (EC) 1272/2008 - CLP** of 16 December 2008 and its amendments.

16.2 Classification and procedure used to obtain the classification for mixtures according to Regulation (EC) No 1272/2008 – CLP.

Skin irritation, Cat. 2 (H315)	Данни от тестове
Serious eye damage, Cat. 1 (H318)	Данни от тестове
May cause respiratory irritation, Cat. 3 (H335)	Опит
May cause respiratory irritation, Cat. 3 (H335)	Опит

16.3. Съкращения и акроними

ADR/RID	Agreement concerning the International Carriage of Dangerous Goods by Road/Railway Regulations concerning the International Transport of Dangerous Goods by Rail
CAS	Chemical Abstracts Service of the American Chemical Society
CLP	Regulation (EC) No 1272/2008 on classification, labeling, and packaging of substances and mixtures
DNEL	Derived No-Effect Level
EC50	Half maximal effective concentration
ECHA	European Chemicals Agency

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EINECS	European Inventory of Existing Commercial Chemical Substances
EPA	Effective Air Filter
EWC	European Waste Catalogue
FF P	Filtering Facepiece for fine particles (disposable)
FM P	Filtering Mask for fine particles with filter cartridge
HEPA	High-Efficiency Particulate Air filter
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
PBT	Persistent, Bioaccumulative, and Toxic
PNEC	Predicted No Effect Concentration
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
RPE	Respiratory Protective Equipment
SE	Single Exposure
STP	Sewage Treatment Plant
STOT	Specific Target Organ Toxicity
UFI	Unique Formula Identifier
vPvB	Very Persistent and Very Bioaccumulative
w/w	Weight by weight percentage
LC50	Lethal concentration at which 50% of test animals die

16.4. Key references and data sources in the literature

(1) Portland Cement Dust – EH75/7 Hazard Assessment Document, Health and Safety Executive (HSE), United Kingdom, 2006. Available at:

<http://www.hse.gov.uk/pubns/web/portlandcement.pdf>

(2) Observation of skin irritation effects caused by cement, Kitsman et al., *Dermatoses*, 47(5), 184-189 (1999).

(3) Opinion of the Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) of the European Commission on the health risks arising from chromium Cr (VI) in cement (European Commission, 2002).

http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf

(4) Epidemiological assessment of the occurrence of allergic dermatitis among construction workers related to Cr (VI) content in cement, NIOH, page 11, 2003.

(5) Short-term methods for assessing chronic toxicity of wastewater and influent water on freshwater organisms, USA, Environmental Protection Agency (EPA), 3rd edition, EPA/600/7-91/002, Environmental Monitoring and Laboratory, USA (EPA), Cincinnati, OH (1994a) and 4th edition, EPA - 821-R-02-013, Office of Water, Washington (2002).

(6) Methods for measuring acute toxicity of wastewater and influent water on marine organisms, USA, Environmental Protection Agency (EPA), 4th edition EPA/600/4-90/027F, Environmental Monitoring and Laboratory, USA (EPA), Cincinnati, OH (1993) and 5th edition EPA-821-R-02-012, Office of Water, Washington (2002).

(7) Environmental impact of construction and repair materials on surface and groundwater. Summary of methodology, laboratory studies, and development model. NCHRP, Report 484, National Publishing Agency at the Academy of Sciences, Washington, 2001.

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(8) Final report on the results of sediment phase toxicity testing with *Corophium volutator* for Portland cement clinker, prepared for Norcem A.S. by AnalyCen Ecotox AS, 2007.

(9) TNO report V8801/02, Study on acute inhalation toxicity (4 hours) with Portland cement clinker CLP/GHS 03-2010 – mild effects in rats, August 2010.

(10) TNO report V8815/09, Assessment of the eye irritation potential of cement clinker G, in vitro, using isolated chicken eye test, April 2010.

(11) TNO report V8815/10, Assessment of the eye irritation potential of cement clinker W, in vitro, using isolated chicken eye test, April 2010.

(12) Study of cytotoxic and proinflammatory effects of cement dust on rat alveolar macrophages, Van Berlo et al., Chem. Res. Toxicol., September 2009; 22(9):1548-58.

(13) Cytotoxicity and genotoxicity of cement dust in A549 human lung epithelial cells, in vitro; Gminski et al., Abstract DGPT Conference Mainz, 2008.

(14) Comments on the Recommendation of the American Conference of Governmental Industrial Hygienists to Change the Threshold Limit Value for Portland Cement, Patrick A. Hessel and John F. Gamble, EpiLung Consulting, June 2008.

(15) Exposure to Thoracic Aerosol in a Prospective Lung Function Study of Cement Production Workers; Noto, H., et al; Ann. Occup. Hyg., 2015, Vol. 59, No. 1, 4–24.

(16) Onset of Allergic Contact Dermatitis Caused by Chromium in Cement: A Review of Epidemiological Studies, Kåre Lenvik, Helge Kjuus, NIOH, Oslo, December 2011.

16.5. Relevant hazard warnings

Hazard warnings:

H315 – Causes skin irritation.

H318 – Causes serious eye damage.

H335 – May cause respiratory irritation.

Safety recommendations:

P101 – If medical advice is needed, have product container or label at hand.

P102 – Keep out of reach of children.

P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.

P332 + P313 – If skin irritation occurs: Get medical advice/attention.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P402 – Store in a dry place.

P501 – Dispose of contents/container as hazardous waste.

16.6. Training tips

In addition to environmental and health and safety training programs for workers, companies must make sure their workers read, understand and apply the requirements of this Safety Data Sheet.

16.7. Disclaimer

This Safety Data Sheet and the information contained herein are based on extensive manufacturing and commercial experience and fully comply with the applicable legislation of the Republic of Bulgaria

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and the European Union. The Safety Data Sheet is not intended to guarantee specific properties or qualities of the product. The information provided is reliable, provided that the product is used under the specified conditions and in accordance with the application indicated on the packaging and/or in the technical literature. The responsibility for any other use of the product, including its use in combination with other products or processes, lies entirely with the user. It is implied that the user is responsible for determining appropriate safety measures and for complying with the regulations applicable to their own activities.