SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name **PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5**

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

Identified uses Cement is used as an hydraulic binder in concrete and mortars that are widely used in construction. Cement is sold in bulk.

1.3. Details of the supplier of the safety data sheet

Supplier **NUH ÇİMENTO SANAYİ A.Ş.**
Akyar Mevkii Hereke 41800 Kocaeli – Turkey
www.nuhcimento.com.tr
Tel: +90 262 316 2000

1.4. Emergency telephone number

Tel: +90 262 316 2000

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health Hazards	Skin Irrit. 2-H315, Skin Sens. 1B- H317, Eye Dam. 1 - H318; STOT SE 3 - H335
Environment Hazards	Not classified.

The Full Text for all hazard statements are displayed in section 16.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

Signal Word Danger

Contains Portland cement clinker

Hazard Statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Precautionary Statements

P102	Keep out of reach of children.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective clothing, gloves, eye and face protection.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P304+P340+P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P501	Dispose of contents/container in accordance with national regulations.

2.3. Other hazards

Cement is not listed as a carcinogen by IARC or NTP, but contains traces of crystalline silica and Cr (+6) classified as known human carcinogens by IARC and NTP. Some studies have shown that exposure to respirable crystalline silica (excluding silicosis) or silicosis may be associated with an increased incidence of conditions such as cycloderma (thickening of the skin), diseases affecting the kidneys. Silicosis increases the risk of tuberculosis.
This cement contains soluble chromium (Cr(VI+)). May cause an allergic reaction. It is only for controlled-closed and fully automated processes as it may contain more than 0.0002% soluble chromium (Cr(VI+)) – it should not come into contact with human skin.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Name	EC No.	CAS No.	Content	Classification (EC 1272/2008)
Portland cement clinker	266-043-4	65997-15-1	90-100 %	Skin Irrit. 2-H315 Skin Sens. 1B- H317 Eye Dam. 1 - H318 STOT SE 3 - H335
Calcium Sulfate, Dihydrate	603-783-2	13397-24-5	2-10 %	---
Calcium carbonate	215-279-6	1317-65-3	<5 %	---

* The product does not contain any nanomaterial.

The Full Text for all Hazard Statements are Displayed in Section 16.

Composition Comments

- The data shown are in accordance with the latest EC Directives.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation
Move person to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops or if discomfort, coughing or other symptoms subside.

Ingestion
Do not induce vomiting. If person is conscious, wash out mouth with water and give plenty of water to drink. Get immediate medical attention or contact anti poison centre.

Skin contact
For dry cement, remove and rinse abundantly with water. For wet cement, wash skin with water. Remove contaminated clothing, footwear, watches, etc and clean thoroughly before re-using them. Seek medical treatment in all cases of irritation or burns.

nuh çimento sanayi a.ş.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

Eye contact
Do not rub eyes as additional cornea damage is possible by mechanical stress. Remove any contact lenses and open the eyelids widely to flush eyes immediately by thoroughly rinsing with plenty of clean water for at least 45 minutes to remove all particles. If possible, use isotonic water (0.9 % NaCl). Contact a specialist of occupational medicine or an eye specialist.

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

Inhalation : (Acute) Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure. Inhalation of high levels of airborne cement dust may cause chemical burns to the nose, throat and lungs.
(Chronic) Chronic bronchitis and long disease may result from chronic exposure to dust. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease.

Ingestion : Do not swallow the cement. Although ingestion of small quantities of cement is not known to be harmful, large quantities dry cement or unhardened wet cement causes esophagus and stomach burns.

Skin contact : Cement is capable of causing dermatitis by irritation and allergy. Skin affected by dermatisis may include symptoms such as redness, itching, rash, scaling and cracking.

Eye contact : Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet cement may cause eye irritation, chemical burns and possible corneal damage.

4.3. Indication of any immediate medical attention and special treatment needed
No specific treatment. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media
Cement is non-combustible and non-explosive and will not facilitate nor support combustion of other materials.
Fire can be extinguished using: All types of extinguishing media are suitable.

5.2. Special hazards arising from the substance or mixture
Specific hazards
In case of fire, toxic gases may be formed. Fire creates: Carbon monoxide (CO). Carbon dioxide (CO_2).

5.3. Advice for firefighters
Special Fire Fighting Procedures
Be aware of runoff from fire control methods. Hardened material may clog sewers and waterways.

Protective equipment for fire-fighters
Cement poses no fire-related hazards. No need for specialist protective equipment for fire fighters.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes.

6.2. Environmental precautions
Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams)

6.3. Methods and material for containment and cleaning up
Recover the spillage in a dry state if possible.
Dry cement: Use dry clean-up methods that do not cause airborne dispersion e.g:
• Vacuum cleaner (industrial portable units, equipped with high efficiency particulate filters (HEPA filter) or equivalent technique).

nuh çimento sanayi a.ş.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

• Wipe-out the dust by mopping, wet brushing or water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry.

If not possible, remove by slurrying with water (see wet cement). When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear appropriate personal protective equipment and prevent dust from spreading. Avoid inhalation of cement and contact with skin. Place spilled materials into a container. Solidify before disposal as described under section 13.

Wet cement: Clean up wet cement and place in a container. Allow material to dry and solidify before disposal as described under section 13.

6.4. Reference to other sections

For personal protection, see section 8. See section 11 for additional information on health hazards.
For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Read and follow the manufacturer's recommendations. Avoid dust development:
• For (bagged) cement used in open-ended mixers: first add the water and then carefully add the cement. Keep the height of the fall low. Start the mixing smoothly. Do not compress empty bags, except when contained in another clean bag.
• To clean up dry cement See section 6.3.
Carrying cement bags may cause sprains and strains to the back, arms, shoulders and legs. Handle with care and use appropriate control measures.

7.2. Conditions for safe storage, including any incompatibilities

Bulk cement should be stored in silos that are waterproof, dry (internal condensation minimised), clean and protected from contamination.
Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement without taking the proper security measures. Cement can build-up or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality. Bags should be stacked in a stable manner. Avoid from direct sunlight.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits

İsim	Standard	TWA-8 Saat		STEL-15 Dk		Notes
Portland Cement *	OEL	---	10 mg/m³	---	---	Inhalable General dust
Calcium oxide	OEL	---	5 mg/m³	---	---	Inhalable General dust
Magnesium Oxide	OEL	---	15 mg/m³			Inhalable
Crystalline Silica	OEL	---	0.05 mg/m³	---	---	Respirable [(10) / (%SİO2+2)] (R)

* Exposure limits for components noted with an * contain no asbestos and <1% crystalline silica.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

8.2. Exposure controls

Protective equipment

Engineering measures
Provide adequate ventilation.

Respiratory equipment
Provide local exhaust or general ventilation system to control dust levels below the OSHA, PEL, MSHA, PELs and ACGIH TLVs. Avoid creating airborne dust conditions. Local exhaust ventilation is preferred since it prevents release of contaminants in to the work area controlling it at the source. If local or general ventilation is not adequate to control dust levels below exposure limits use MSHA/NIOSH approved respirators. When a person is exposed to dust above exposure limits, use appropriate respiratory protection. It should be adapted to the dust level and conform to the relevant EN standard.

Hand protection
If hands or feet will be immersed in cement, wear impervious, abrasion and alkali resistant gloves (made of low soluble chroium (Cr(VI+)) containing material and internally lined with cotton), boots, closed long- sleeved protective shirt, long pants or other protective clothing to prevent skin contact. Use additionally skin care products (including barrier creams) to protect the skin from prolonged contact with wet cement. Particular care should be taken to ensure that wet cement does not enter the boots.
In some circumstances such as when laying concrete or screed, waterproof trousers or kneepads are necessary. Wash work clothes after each use. If contact occurs, wash areas contacted by material with pH neutral soap and water.

Eye protection
Wear approved safety glasses with side shields or goggles according to EN 166 to protect the eyes. In high dusty environments wear tightly fitting goggles to avoid eye irritation or injury.

Hygiene measures
During work avoid kneeling in fresh mortar or concrete wherever possible. If kneeling is absolutely necessary then appropriate waterproof personal protective equipment must be worn. Do not eat, drink or smoke when working with cement to avoid contact with skin or mouth. Immediately after working with cement or cement-containing materials, workers should wash or shower or use skin moisturizers. Remove contaminated clothing, footwear, watches, etc and clean thoroughly before re-using them

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Powder.
Colour	Grey or white
Odour	Odourless
Odour threshold	No information available
pH	11-13.5 (20 ºC)
Melting point	No information available
Initial boiling point and range	>1 250 ºC
Flash point	No information available
Evaporation rate	Not relevant
Upper/lower flammability or explosive limits	No information available
Flammability (solid, gas)	No information available
Auto-ignition temperature	No information available
Vapour pressure	Not relevant

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

Vapor Density	Not relevant
Relative density	0.9- 1.5 g/cm^3
Solubility(ies)	Solubility in water (20 ºC); slight (0.1 – 1.5 g/l)
Density	2.75- 3.20 g/cm^3
Coefficient of dispersion: n-octanol / water	No information available
Decomposition Temperature	No information available
Viscosity	Not relevant
Oxidising properties	No information available
Explosive properties	No information available

9.2. Other information

Main particle size	5 - 30 micrometer

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Dry cements are stable as long as they are stored properly (see section 7) and compatible with most other building materials. When mixed with water, cements will harden into stable mass that is not reactive to normal environments.

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Not expected.

10.4. Conditions to avoid

Humidity during storage may cause lump formation and loss of product avoid quality.

10.5. Incompatible materials

Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen produced.

10.6. Hazardous decomposition products

Cement will not decompose into other hazardous by-products and do not polymerise decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity - Product

LD50, dermal, rabbit >2000 mg/kg 24 hours

Portland cement clinker

LD50, oral >2000 mg/kg

Calcium carbonate

LD50, oral >2000 mg/kg

Serious eye damage/irritation

Causes serious eye damage.

Skin corrosion/irritation

Causes skin irritation.

Respiratory sensitisation:
Based on available data the classification criteria are not met.

Skin sensitisation
May cause an allergic skin reaction.

Germ cell mutagenicity
Genotoxicity - In Vitro/ In Vivo
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.
A casual association between cement exposure and cancer has not been established [Reference (1)].

Reproductive Toxicity – (Fertility/ Development)
Based on available data the classification criteria are not met.

Specific Target Organ Toxicity - STOT Single Exposure
May cause respiratory irritation.

Specific Target Organ Toxicity - STOT Repeated Exposure
Based on available data the classification criteria are not met.

Aspiration Toxicity
Based on available data the classification criteria are not met.

Acute Effects

Eye contact : Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed eye contact irritation or inflammation. Direct contact by larger amounts of dry cement or splashes of wet cement may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.

Skin contact : Dry cement in contact with wet skin or exposure to moist or wet cement may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion can cause severe burns.

Ingestion : Swallowing large quantities may cause irritation to the gastrointestinal tract.

Inhalation : Cement may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits.

Chronic Effects

Inhalation : Chronic exposure to respirable dust in excess of occupational exposure limits may cause coughing, shortness of breath and may cause chronic obstructive lung disease (COPD).
Inhaling cement dust may aggravate existing respiratory system.
Disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

Skin contact : Some individuals may exhibit eczema upon exposure to wet cement, caused either by the high pH which induces irritant contact dermatitis, or by an immunological reaction to soluble chromium (Cr(VI+)) which elicits allergic contact dermatitis [Reference (4)]. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of those two mechanisms. An exact diagnosis is often difficult to assess.

11.2 Information on other hazards
The product is not included any substance as endocrine disrupting properties.

nuh çimento sanayi a.ş.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

The product is not expected to be hazardous to the environment. The addition of large amounts of cement to water may, however, cause a rise in pH and may therefore be toxic to aquatic life under certain circumstances.

12.2. Persistence and degradability

Not relevant as cement is an inorganic material. After hardening cement presents no toxicity risks.

12.3. Bioaccumulative potential

Not relevant as cement is an inorganic material. After hardening cement presents no toxicity risks.

12.4. Mobility in soil

Dry cement is not volatile but might become airborne during handling operations.

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Endocrine disrupting properties

The product is not included any substance as endocrine disrupting properties.

12.7. Other adverse effects

No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Since it contains more than 0.0002% soluble Chromium (Cr(VI+)) it that has exceeded its shall not be used/sold other than for use in controlled closed and shelf life totaly automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

10 13 14 waste concrete and concrete sludge
17 01 01 concrete

Product-Unused Residue or Dry Spillage

Pick up dry. Mark the containers. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to local regulations.

Packaging

Completely empty the packaging and process it according to local legislation.
15 01 01 Paper and cardboard packaging

SECTION 14: TRANSPORT INFORMATION

General: The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number or ID number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

- Commission Regulation (EU) 2020/878 of 18 June 2020.
- Health and Safety at Work etc. Act 1974 (as amended).
- EH40/2005 Workplace exposure limits.
- Regulation (EC) No.648/2004 on detergents.
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Restrictions (Annex XVII Regulation 1907/2006)

There are no known restrictions on the use of this product.

Seveso Directive - Control of major accident hazards

Not relevant.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Abbreviations used in safety data sheet

ADR: European Agreement on International Carriage of Dangerous Goods by Road.
ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement on International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
TWA: Time weighted average
ATE: Estimated value of acute toxicity
EC No: European Community number
CAS: Chemical Theory Service.
LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
LC50: Substance concentration causing 50% (half) death in the test animals group.
EC50: Effective Concentration of the substance causing the maximum of 50%.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.
SEA: Classification, labeling, packaging regulation
DNEL: Derivative Inactive Level
PNEC: Estimated Unaffected Concentration

nuh
çimento sanayi a.ş.

SAFETY DATA SHEET
PORTLAND CEMENT (SULFATE RESISTING) CEM I 42,5 R SR-5

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).
Commission Regulation (EU) 2020/878 of 18 June 2020.

Information Sources
This SDS is prepared based on the information received from the product owner.
European Chemicals Agency (ECHA)

Classification Criteria

Skin Irrit. 2-H315	: Calculation method
Eye Dam. 1 - H318	: Calculation method
Skin Sens. 1B- H317	: Calculation method
STOT SE 3 - H335	: Calculation method

Revision Comments
First issue.

Hazard Statements In Full

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Issued By
Zeynep KAMBUR
Certificate No.: TÜV/11.110.05 Certificate Date: 16.11.2021 Validity Date: 16.11.2026

Issued Note
This SDS is prepared based on the information and documents received from product owner. CRAD or/and SDS author shall not be responsible for incorrect prepared of SDS and pecuniary loss or intangible damages because of deficient or wrong information and documents which comes from product owner.

Disclaimer
This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.