

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### TUNED® LIGHT CEMENT

Revision Date: 03-Jan-2012

Revision Number: 6

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Identifier**

**Product Name** TUNED® LIGHT CEMENT

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

|                             |                                                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Recommended Use</b>      | Cement                                                                                                    |
| <b>Sector of use</b>        | SU2 - Mining, (including offshore industries)                                                             |
| <b>Product category</b>     | PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific |
| <b>Process categories</b>   | PROC 26 - Handling of solid inorganic substances at ambient temperature                                   |
| <b>Uses Advised Against</b> | No information available                                                                                  |

**Details of the supplier of the safety data sheet**

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**Emergency telephone number**

+44 1224 795277 or +1 281 575 5000

| Emergency telephone \$45 - (EC)1272/2008 |                                                                                                                         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Europe</b>                            | <b>112</b>                                                                                                              |
| <b>Denmark</b>                           | Poison Control Hotline (DK): +45 82 12 12 12                                                                            |
| <b>France</b>                            | ORFILA (FR): + 01 45 42 59 59                                                                                           |
| <b>Germany</b>                           | Poison Center Berlin (DE): +49 030 30686 790                                                                            |
| <b>Italy</b>                             | Poison Center, Milan (IT): +39 02 6610 1029                                                                             |
| <b>Netherlands</b>                       | National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals) |
| <b>Norway</b>                            | Poisons Information (NO): + 47 22 591300                                                                                |
| <b>Poland</b>                            | Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97                                  |
| <b>Spain</b>                             | Poison Information Service (ES): +34 91 562 04 20                                                                       |
| <b>United Kingdom</b>                    | NHS Direct (UK): +44 0845 46 47                                                                                         |

#### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**REGULATION (EC) No 1272/2008**

|                                     |                     |
|-------------------------------------|---------------------|
| Skin Corrosion / irritation         | Category 2 - (H315) |
| Serious Eye Damage / Eye Irritation | Category 1 - (H318) |

## 2. HAZARDS IDENTIFICATION

|                                                      |                      |
|------------------------------------------------------|----------------------|
| Skin Sensitization                                   | Category 1- (H317)   |
| Carcinogenicity                                      | Category 1A - (H350) |
| Specific Target Organ Toxicity - (Single Exposure)   | Category 3 - (H335)  |
| Specific Target Organ Toxicity - (Repeated Exposure) | Category 1 - (H372)  |

### Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

#### Classification

T - Toxic.  
Xi - Irritant.

#### Risk Phrases

R49 May cause cancer by inhalation.  
R41 Risk of serious damage to eyes.  
R43 May cause sensitization by skin contact.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R37/38 Irritating to respiratory system and skin.

#### Label Elements

##### Hazard Pictograms



#### Signal Word

**Danger**

#### Hazard Statements

H318 - Causes serious eye damage  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H335 - May cause respiratory irritation  
H372 - Causes damage to organs through prolonged or repeated exposure  
H350i - May cause cancer by inhalation

#### Contains

##### Substances

Portland cement  
Fly ash  
Potassium chloride  
Crystalline silica, quartz

##### CAS Number

65997-15-1  
68131-74-8  
7447-40-7  
14808-60-7

#### Precautionary Statements - EU (§28, 1272/2008)

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P201 - Obtain special instructions before use  
P280 - Wear eye protection/face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P308 + P313 - IF exposed or concerned: Get medical advice/attention

#### Other Hazards

None known

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances                 | EINECS    | CAS Number | PERCENT  | EEC Classification   | EU - CLP Substance Classification                                                    | REACH No.         |
|----------------------------|-----------|------------|----------|----------------------|--------------------------------------------------------------------------------------|-------------------|
| Portland cement            | 266-043-4 | 65997-15-1 | 30 - 60% | Xi; R37/38-41<br>R43 | Eye Dam. 1 (H318)<br>Skin Irrit. 2 (H315)<br>Skin Sens. 1 (H317)<br>STOT SE 3 (H335) | No data available |
| Fly ash                    | 268-627-4 | 68131-74-8 | 10 - 30% | Not applicable       | Not applicable                                                                       | No data available |
| Potassium chloride         | 231-211-8 | 7447-40-7  | 5 - 10%  | Not applicable       | Not applicable                                                                       | No data available |
| Crystalline silica, quartz | 238-878-4 | 14808-60-7 | 1 - 5%   | T; R49<br>Xn; R48/20 | Carc. 1A (H350i)<br>STOT RE 1 (H372)                                                 | No data available |

For the full text of the R-phrases mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

#### Description of first aid measures

##### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

##### Eyes

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

##### Skin

Wash with soap and water. Get medical attention if irritation persists.

##### Ingestion

Under normal conditions, first aid procedures are not required.

#### Most important symptoms and effects, both acute and delayed

May cause eye, skin, and respiratory irritation. May cause allergic skin reaction. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

#### Indication of any immediate medical attention and special treatment needed

##### Notes to Physician

Treat symptomatically

### 5. FIREFIGHTING MEASURES

#### Extinguishing media

##### Suitable Extinguishing Media

None - does not burn.

##### Extinguishing media which must not be used for safety reasons

None known.

#### Special hazards arising from the substance of mixture

##### Special Exposure Hazards

Not applicable.

#### Advice for firefighters

##### Special Protective Equipment for Fire-Fighters

Not applicable.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust.

See Section 12 for additional information

#### Environmental precautions

None known.

**Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

**Reference to other sections**

See Section 12 for additional information.

**7. HANDLING AND STORAGE****Precautions for Safe Handling**

Avoid contact with eyes, skin, or clothing. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

**Conditions for safe storage, including any incompatibilities**

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 24 months.

**Specific End Use(s)**

**Exposure Scenario** No information available

**Other Guidelines** No information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

| Substances                 | EU             | UK OEL                | Netherlands             | France OEL            | Germany MAK/TRK        |
|----------------------------|----------------|-----------------------|-------------------------|-----------------------|------------------------|
| Portland cement            | Not applicable | 10 mg/m <sup>3</sup>  | Not applicable          | Not applicable        | 5 mg/m <sup>3</sup>    |
| Fly ash                    | Not applicable | 4 mg/m <sup>3</sup>   | Not applicable          | Not applicable        | Not applicable         |
| Potassium chloride         | Not applicable | 10 mg/m <sup>3</sup>  | Not applicable          | Not applicable        | Not applicable         |
| Crystalline silica, quartz | Not applicable | 0.1 mg/m <sup>3</sup> | 0,075 mg/m <sup>3</sup> | 0.1 mg/m <sup>3</sup> | 0,15 mg/m <sup>3</sup> |

| Substances                 | Italy          | Poland                | Hungary                | Czech Republic         | Denmark        |
|----------------------------|----------------|-----------------------|------------------------|------------------------|----------------|
| Portland cement            | Not applicable | 6.0 mg/m <sup>3</sup> | 10 mg/m <sup>3</sup>   | 10.0 mg/m <sup>3</sup> | Not applicable |
| Fly ash                    | Not applicable | Not applicable        | Not applicable         | Not applicable         | Not applicable |
| Potassium chloride         | Not applicable | Not applicable        | Not applicable         | Not applicable         | Not applicable |
| Crystalline silica, quartz | Not applicable | 2 mg/m <sup>3</sup>   | 0.15 mg/m <sup>3</sup> | Not applicable         | Not applicable |

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**Exposure controls****Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits listed in Section 2.

**Personal protective equipment****Respiratory Protection**

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), or equivalent respirator when using this product.

**Hand Protection**

Normal work gloves.

**Skin Protection**

Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

**Environmental Exposure Controls**

No information available

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Solid  
**Color:** Gray  
**Odor:** Odorless  
**Odor Threshold:** No information available

| <u>Property</u><br><u>Remarks/ Method</u>     | <u>Values</u>            |
|-----------------------------------------------|--------------------------|
| <b>pH:</b>                                    | 12.4                     |
| <b>Melting Point/Range</b>                    | No data available        |
| <b>Freezing Point/Range (C):</b>              | No data available        |
| <b>Boiling Point/Range</b>                    | No data available        |
| <b>Flash Point</b>                            | No data available        |
| <b>Evaporation rate</b>                       | No data available        |
| <b>Vapor Pressure</b>                         | No data available        |
| <b>Vapor Density</b>                          | No data available        |
| <b>Specific Gravity</b>                       | No data available        |
| <b>Water Solubility</b>                       | No data available        |
| <b>Solubility in other solvents</b>           | No data available        |
| <b>Partition coefficient: n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | No data available        |
| <b>Decomposition Temperature</b>              | No data available        |
| <b>Viscosity</b>                              | No data available        |
| <b>Explosive Properties</b>                   | No information available |
| <b>Oxidizing Properties</b>                   | No information available |

**Other information**

**VOC Content (%)** No data available

**10. STABILITY AND REACTIVITY****Reactivity**

Not applicable

**Chemical Stability**

Stable

**Possibility of Hazardous Reactions**

Will Not Occur

**Conditions to Avoid**

None anticipated

**Incompatible Materials**

Hydrofluoric acid.

**Hazardous Decomposition Products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

**11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity****Inhalation**

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact**

May cause severe eye irritation.

**Skin Contact**

Can dry skin. May cause an allergic skin reaction. May cause alkali burns with confined contact.

**Ingestion**

None known

## 11. TOXICOLOGICAL INFORMATION

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

| Substances                 | LD50 Oral         | LD50 Dermal       | LC50 Inhalation   |
|----------------------------|-------------------|-------------------|-------------------|
| Portland cement            | No data available | No data available | No data available |
| Fly ash                    | No data available | No data available | No data available |
| Potassium chloride         | > 5000 mg/kg      | No data available | No data available |
| Crystalline silica, quartz | No data available | No data available | No data available |

## 12. ECOLOGICAL INFORMATION

### Toxicity Ecotoxicity Effects

| Substances                 | Toxicity to Algae                         | Toxicity to Fish                                                                 | Toxicity to Microorganisms | Daphnia Magna (Water Flea)           |
|----------------------------|-------------------------------------------|----------------------------------------------------------------------------------|----------------------------|--------------------------------------|
| Portland cement            | No information available                  | No information available                                                         | No information available   | No information available             |
| Fly ash                    | No information available                  | No information available                                                         | No information available   | TLM96: > 1000 ppm (Crangon crangon)  |
| Potassium chloride         | EC50: 2500 mg/l (Desmodesmus subspicatus) | LC50: 1060 mg/L (Lepomis macrochirus); LC50: 750-1020 mg/L (Pimephales promelas) | No information available   | TLM96: 100-330 ppm (Crangon crangon) |
| Crystalline silica, quartz | No information available                  | No information available                                                         | No information available   | No information available             |

### Persistence and degradability No information available

### Bioaccumulative potential No information available

### Mobility in soil No information available

**Results of PBT and vPvB assessment**

No information available.

**Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations.

**Contaminated Packaging**

Follow all applicable national or local regulations.

**14. TRANSPORT INFORMATION****IMDG/IMO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**RID**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**ADR**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**IATA/ICAO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**Special Precautions for User**

None

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories****EINECS Inventory**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian DSL Inventory**

All components listed on inventory or are exempt.

**Legend****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**Germany, Water Endangering Classes (WGK)**

WGK 0: Generally not water endangering.

**Chemical Safety Assessment**

No information available

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**16. OTHER INFORMATION**

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**Full text of R-phrases referred to under Sections 2 and 3**

R49 May cause cancer by inhalation.

R41 Risk of serious damage to eyes.

R43 May cause sensitization by skin contact.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R37/38 Irritating to respiratory system and skin.

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)**Revision Date:** 03-Jan-2012**Revision Note** Not applicable**This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010****Disclaimer Statement**

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**End of Safety Data Sheet**