

Section 1 Chemical Product and Company Identification

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 (585) 226-6177

**CHEMTREC 24 Hour Emergency
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 For laboratory use only.
 Not for drug, food or household use.

| | |
|-----------------|-----------------------------------|
| Product | ALUMINUM POTASSIUM SULFATE |
| Synonyms | Potassium Alum / Alum |

Section 2 Hazards Identification

Signal word: WARNING**Pictograms:** GHS07**Target organs:** Liver, Kidneys**GHS Classification:**

Acute toxicity, oral (Category 4)

Skin irritation (Category 2)

Eye irritation (Category 2B)

GHS Label information: Hazard statement:

H302: Harmful if swallowed.

H315+H320: Causes skin and eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

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

P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

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

P337+P313: If eye irritation persists: Get medical attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|----------------------------|-----------|------|-----------|
| Aluminum potassium sulfate | 7784-24-9 | 100% | 233-141-3 |

Section 4 First Aid Measures

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: Fire or excessive heat above 760°C (1400°F), may produce hazardous decomposition products of toxic and corrosive gases, Sulfur trioxide and Aluminum oxide. Sulfur trioxide is an oxidizing agent which supports combustion and will react with water to form Sulfuric acid.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|------------------|---|--|--|--|
| | Aluminum, metal and insoluble compounds | TWA: 1 mg/m ³ Respirable fraction | TWA: 5 mg/m ³ Respirable fraction | TWA: 5 mg/m ³ Respirable fraction |

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

| | | |
|---|---|--|
| Appearance: Solid. White crystals or powder. Odor: No odor. Odor threshold: Data not available. pH: 3.5 (1% solution) Melting / Freezing point: Loses H ₂ O at 93°C (199°F) Boiling point: Data not available Flash point: Data not available | Evaporation rate (= 1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 1.97 Solubility(ies): Moderately soluble in water. | Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available. Molecular formula: AlK(SO ₄) ₂ ·12H ₂ O Molecular weight: 474.39 |
|---|---|--|

Section 10 Stability & Reactivity

Chemical stability: Stable
Conditions to avoid: Excessive temperature and heat.
Incompatible materials: Aluminum, copper, steel, zinc, strong oxidizing agents.
Hazardous decomposition products: Oxides of sulfur, aluminum oxide, oxides of potassium.
Hazardous polymerization: Will not occur.

Section 11 Toxicological Information

Acute toxicity: Data not available
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.
Ingestion: Harmful if swallowed. Ingestion of large amounts may cause gastrointestinal irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin.
Eyes: Causes eye irritation. May cause chemical conjunctivitis.
Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
Additional information: RTECS #: WS5690000

Section 12 Ecological Information

Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Persistence and degradability: No data available
Mobility in soil: No data available
Bioaccumulative potential: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable
Hazard class: Not applicable
Exceptions: Not applicable
Shipping name: Not Regulated
Packing group: Not applicable
2016 ERG Guide #: Not applicable
Reportable Quantity: No
Marine pollutant: No

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL |
|---|--------|-------------|------------|--------|------------|
| Aluminum potassium sulfate (CAS # 10043-67-1) | Listed | Not listed | Not listed | Listed | Not listed |

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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| | |
|-----------------|--------------------------------|
| Product | CALCIUM OXIDE |
| Synonyms | Lime / Quick Lime / Burnt Lime |

Section 2 Hazards Identification

Signal word: DANGER**Pictograms:** GHS05 / GHS07**Target organs:** Respiratory system, Eyes, Skin, Mucous membranes**GHS Classification:**

Skin irritation (Category 2)

Eye damage (Category 1)

STOT-SE (Category 3)

GHS Label information: Hazard statement:

H315: Causes skin irritation.

H318: Causes serious eye damage.

H335: May cause respiratory irritation.

Precautionary statement:

P261: Avoid breathing dust.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

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

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

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

P337+P313: If eye irritation persists: Get medical advice/attention.

P362+P364: Take off contaminated clothing and wash before reuse.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---------------|-----------|------|-----------|
| Calcium oxide | 1305-78-8 | 100% | 215-138-9 |

Section 4 First Aid Measures

INGESTION: HARMFUL IF SWALLOWED. CAUSES SEVERE GASTROINTESTINAL TRACT IRRITATION AND/OR BURNS. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED. CAUSES SEVERE RESPIRATORY TRACT IRRITATION AND/OR BURNS. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION AND/OR BURNS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION AND/OR BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: DO NOT use carbon dioxide or halogenated agents. Use flooding amounts of water as spray to absorb the heat generated.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Reacts with water to release heat and form alkaline solution. Contact with water or moisture may generate sufficient heat to ignite combustible materials. Product will swell with moisture and may burst containers.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|------------------|---------------|--------------------------|--------------------------|--------------------------|
| | Calcium oxide | TWA: 2 mg/m ³ | TWA: 5 mg/m ³ | TWA: 2 mg/m ³ |

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

| | | |
|--|--|---|
| Appearance: Solid. Hygroscopic, white powder. | Evaporation rate (= 1): Not applicable | Partition coefficient: Not applicable |
| Odor: Earthy odor. | Flammability (solid/gas): Not applicable | Auto-ignition temperature: Data not available |
| Odor threshold: Data not available. | Explosion limits: Lower / Upper: Not applicable | Decomposition temperature: Data not available. |
| pH: Data not available. | Vapor pressure (mm Hg): Data not available | Viscosity: Data not available. |
| Melting / Freezing point: 2572°C (4662°F) | Vapor density (Air = 1): Data not available | Molecular formula: CaO |
| Boiling point: 2850°C (5162°F) | Relative density (Specific gravity): 3.2-3.4 | Molecular weight: 56.08 |
| Flash point: Not flammable | Solubility(ies): Slightly soluble in water with evolution of heat | |

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Protect from water, moisture and acids. Product will swell and generate heat when moistened.

Incompatible materials: Ethanol, boric acid and calcium chloride, interhalogens such as boron trifluoride, chlorine trifluoride, fluorine, hydrofluoric acid, phosphorus pentoxide, perchlorates, nitrates and permanganates, acids. Reacts with water to form calcium hydroxide and heat. Reacts with carbon dioxide to form calcium carbonate.

Hazardous decomposition products: Thermal decomposition result in Calcium hydroxide.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: ca. 500-2,000 mg/kg

Skin corrosion/irritation: Skin-human: irritating (corrosive, causes burns)

Serious eye damage/irritation: Eyes-human: highly irritating (risk of serious damage to eyes)

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause severe irritation of the upper respiratory tract with pain, burns and inflammation. May be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Ingestion: Ingestion may cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause circulatory system failure. May cause perforation of the digestive tract. May cause excess salivation, painful swallowing, rapid pulse and thermal burns.

Skin: Contact with skin causes irritation and/or burns with possible deep, penetrating ulcers.

Eyes: Contact with eyes causes irritation and/or burns and possible corneal injury.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: EW3100000

Section 12 Ecological Information

Toxicity to fish: Cyprinus carpio (fish, fresh water), LC50 = 1,070 mg/l/96 hours

Toxicity to daphnia and other aquatic invertebrates: Other aquatic crustacea, EC50 = 159.6 mg/l/24 hours

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: UN1910

Shipping name: Calcium oxide

Hazard class: 8

Packing group: III

Reportable Quantity: No

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 5 Kg (air only)

2016 ERG Guide # 157

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL |
|---------------|--------|-------------|------------|--------|------------|
| Calcium oxide | Listed | Not listed | Not listed | Listed | Not listed |

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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| | |
|-----------------|----------------------------|
| Product | CHARCOAL, ACTIVATED |
| Synonyms | Activated Carbon |

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required

Pictograms: No symbol required

Target organs: None known

GHS Classification: None required

GHS Label information: Hazard statement: None required

Precautionary statement: None required

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|------------------|-----------|------|-----------|
| Activated carbon | 7440-44-0 | 100% | 231-153-3 |

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust dispersed in air becomes explosive when exposed to ignition source.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|------------------|---------------------------------------|--|------------------|------------------|
| | Particulates not otherwise classified | TWA: 5 mg/m ³ Respirable fraction | None established | None established |

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. Black granules.

Odor: No odor.

Odor threshold: Data not available.

pH: 5.0 - 8.0

Melting / Freezing point: Data not available

Boiling point: Decomposes

Flash point: Combustible

Evaporation rate (= 1): Data not available

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): Data not available

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 1.8-2.1

Solubility(ies): Insoluble in water.

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available

Viscosity: Data not available.

Molecular formula: C

Molecular weight: 12.01

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Stable under normal fire conditions.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 10,000 mg/kg ; Inhalation-rat LC50: >64.4 mg/l

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

Eyes: May cause eye irritation.

Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Additional information: RTECS #: FF5250100

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL |
|------------------|--------|-------------|------------|--------|------------|
| Activated carbon | Listed | Not listed | Not listed | Listed | Not listed |

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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| | |
|-----------------|--|
| Product | FD&C GREEN #3 |
| Synonyms | Food Coloring Green / Food Coloring Green #3 / Green Food Coloring / Dye, Vegetable / FD&C Green Dye #3 / Food Dye Green #3, 0.5% Aqueous Solution |

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required
Pictograms: No symbol required
Target organs: None known

GHS Classification: None required
GHS Label information: Hazard statement: None required
Precautionary statement: None required

Supplemental information:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|--------------------------------|-----------|-------|-----------|
| Water | 7732-18-5 | 99.5% | 231-791-2 |
| FD&C Green #3 (C.I. No. 42053) | 2353-45-9 | 0.5% | 219-091-5 |

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|------------------|---------------|------------------|------------------|------------------|
| | FD&C Green #3 | None established | None established | None established |

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

| | | |
|---|---|---|
| Appearance: Liquid, clear green. | Evaporation rate (Water = 1): <1 | Partition coefficient: Data not available |
| Odor: No odor. | Flammability (solid/gas): Data not available. | Auto-ignition temperature: Data not available |
| Odor threshold: Data not available. | Explosion limits: Lower / Upper: Data not available | Decomposition temperature: Data not available. |
| pH: Data not available. | Vapor pressure (mm Hg): 14 (water) | Viscosity: Data not available. |
| Melting / Freezing point: Approximately 0°C (32°F) (water) | Vapor density (Air = 1): 0.7 (water) | Molecular formula: Mixture |
| Boiling point: Approximately 100°C (212°F) (water) | Relative density (Specific gravity): Approximately 1.0 (water) | Molecular weight: Mixture |
| Flash point: Data not available | Solubility(ies): Complete in water. | |

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatible materials: Strong oxidizers, reducing agents.

Hazardous decomposition products: Oxides of carbon, nitrogen oxides, sulfur oxides.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: >2,000 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Not expected to be a health hazard.

Ingestion: May be harmful by ingestion.

Skin: Contact may cause irritation.

Eyes: Contact may cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: BQ4425000

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2016 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL |
|--------------------------------|--------|-------------|------------|--------|------------|
| FD&C Green #3 (C.I. No. 42053) | Listed | Not listed | Not listed | Listed | Not listed |

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Identification

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| | |
|-----------------|-----------------------|
| Product | GRAVEL, AQUARIUM |
| Synonyms | Natural Sand / Gravel |

Section 2 Hazards Identification

Signal word: WARNING

Pictograms: GHS08

Target organs: Lungs



GHS Classification:

*STOT-RE (Category 2)

GHS Label information: Hazard statement:

*H373: May cause damage to organs (*lungs*) through prolonged or repeated exposure (*inhalation*).

* Respirable dust particles containing silicon dioxide may be generated by crushing. There are no known hazards associated with this material when used as recommended.

Precautionary statement:

P260: Do not breathe dust.

P314: Get medical advice/attention if you feel unwell.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|-------------------|------------|------|-----------|
| Gravel - aquarium | 14808-60-7 | >99% | 238-878-4 |

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: RESPIRABLE CRYSTALLINE SILICA MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Product will not burn or support fire. Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool..

Specific Hazards: None known.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area.

Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|------------------|---------------------------------------|--|---|---|
| | Silica, crystalline, α -quartz | TWA: 0.025 mg/m ³ respirable (A2) | TWA: 10 mg/m ³ respirable dust | TWA: 0.05 mg/m ³ respirable dust |

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

| | | |
|--|---|--|
| Appearance: Solid. Tan to light brown round particles. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 1610°C (3110°F) Boiling point: 2230°C (4046°F) Flash point: Not flammable | Evaporation rate (= 1): Not applicable Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Not flammable Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.65 Solubility(ies): Insoluble in water. | Partition coefficient: Not applicable Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: SiO ₂ Molecular weight: 60.09 |
|--|---|--|

Section 10 Stability & Reactivity

Chemical stability: Stable
Conditions to avoid: Avoid contact with incompatible materials.
Incompatible materials: Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide and oxygen difluoride may cause fire.
Hazardous decomposition products: Will dissolve in hydrofluoric acid and produce silicon tetrafluoride, a corrosive gas.

Hazardous polymerization: Will not occur.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 500 mg/kg
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: Known to be a human carcinogen (respirable). [Quartz]
IARC classified: Group 1: Carcinogenic to humans. [Quartz]
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Inhalation - May cause damage to organs through prolonged or repeated exposure. [Quartz]
Aspiration hazard: Data not available
Potential health effects:
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion: May be harmful if swallowed.
Skin: May cause transient irritation.
Eyes: May cause transient irritation.
Signs and symptoms of exposure: Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and milary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis.
Additional information: RTECS #: VV7330000

Section 12 Ecological Information

Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Persistence and degradability: No data available
Mobility in soil: No data available
Bioaccumulative potential: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable
Hazard class: Not applicable
Exceptions: Not applicable
Shipping name: Not Regulated
Packing group: Not applicable
2012 ERG Guide #: Not applicable
Reportable Quantity: No
Marine pollutant: No

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL |
|-----------|--------|-------------|------------|--------|------------|
| Sand | Listed | Not listed | Not listed | Listed | Not listed |

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Identification

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| | |
|-----------------|---|
| Product | KAOLIN |
| Synonyms | Aluminum Silicate, Dihydrate / China Clay |

Section 2 Hazards Identification

Signal word: WARNING
Pictograms: GHS07
Target organs: None known.



GHS Classification:
 STOT-SE (Category 3)

GHS Label information: Hazard statement(s):
 H335: May cause respiratory irritation.

Precautionary statement(s):

P261: Avoid breathing dust.
 P271: Use only outdoors or in a well-ventilated area.
 P304+P340: IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
 P312: Call a POISON CENTER or doctor if you feel unwell.
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up
 P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations. .

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---------------|-----------|------|-----------|
| Kaolin | 1332-58-7 | 100% | 310-194-1 |

Section 4 First Aid Measures

INGESTION: MAY CAUSE GASTROINTESTINAL DISTURBANCES. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE RESPIRATORY IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE TRANSIENT IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE DRYING OF SKIN. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dusts may form flammable and explosive mixtures in air. Avoid dispersion of dust in air to reduce potential for rapid and/or explosive ignition.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Minimize dust generation and accumulation. Use a dust suppressant such as water. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Identification

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| | |
|-----------------|---|
| Product | SAND, COARSE |
| Synonyms | Silicon Dioxide / Quartz / Crystalline Silica |

Section 2 Hazards Identification

Signal word: WARNING
Pictograms: GHS08
Target organs: Lungs



GHS Classification:
 *STOT-RE (Category 2)

GHS Label information: Hazard statement:
 *H373: May cause damage to organs (*lungs*) through prolonged or repeated exposure (*inhalation*).

* *Respirable dust particles containing silicon dioxide may be generated by crushing. There are no known hazards associated with this material when used as recommended.*

Precautionary statement:
 P260: Do not breathe dust.
 P314: Get medical advice/attention if you feel unwell.
 P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product contains a chemical known to the State of California to cause cancer (Silica, crystalline (airborne particles of respirable size)).

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---------------|------------|------|-----------|
| Sand | 14808-60-7 | >99% | 238-878-4 |

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: RESPIRABLE CRYSTALLINE SILICA MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Sand will not burn or support fire. Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool..

Specific Hazards: None known.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Identification

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| | |
|-----------------|---|
| Product | SAND, FINE WHITE (OTTAWA) |
| Synonyms | Silicon Dioxide / Quartz / Crystalline Silica |

Section 2 Hazards Identification

Signal word: WARNING
Pictograms: GHS08
Target organs: Lungs



GHS Classification:
 *STOT-RE (Category 2)

GHS Label information: Hazard statement:
 *H373: May cause damage to organs (*lungs*) through prolonged or repeated exposure (*inhalation*).

* *Respirable dust particles containing silicon dioxide may be generated by crushing. There are no known hazards associated with this material when used as recommended.*

Precautionary statement:

P260: Do not breathe dust.
 P314: Get medical advice/attention if you feel unwell.
 P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product contains a chemical known to the State of California to cause cancer (Silica, crystalline (airborne particles of respirable size)).

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---------------|------------|------|-----------|
| Sand | 14808-60-7 | >99% | 238-878-4 |

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: RESPIRABLE CRYSTALLINE SILICA MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Sand will not burn or support fire. Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool..

Specific Hazards: None known.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Identification

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| | |
|----------------|-----------------|
| Product | VINEGAR - WHITE |
|----------------|-----------------|

| | |
|-----------------|---------------|
| Synonyms | Not available |
|-----------------|---------------|

Section 2 Hazards Identification

Signal word: WARNING
Pictograms: No symbol required
Target organs: None known

GHS Classification:
 Eye irritation (Category 2B)

GHS Label information: Hazard statement:
 H320: Causes eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical attention.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

| Chemical Name | CAS # | % | EINECS |
|---------------|-----------|--------|-----------|
| Water | 7732-18-5 | 92-96% | 231-791-2 |
| Acetic acid | 64-19-7 | 4-6% | 200-580-7 |

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dangerous in contact with chromic acid, sodium peroxide, nitric acid or other oxidizing materials.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
|------------------|---------------|----------------------------|-------------|----------------------------|
| | Acetic acid | TWA: 10 ppm / STEL: 15 ppm | TWA: 10 ppm | TWA: 10 ppm / STEL: 15 ppm |

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

| | | |
|--|--|--|
| Appearance: Clear, colorless liquid. Odor: Vinegar-like odor. Odor threshold: No data available pH: No data available Melting / Freezing point: ~ 0°C (~ 32°F) [water] Boiling point: ~ 100°C (212°F) [water] Flash point: Not flammable. | Evaporation rate (Water = 1): < 1 Flammability (solid/gas): No data available Explosion limits: Upper/Lower: No data available Vapor pressure (mm Hg): 14 [water] Vapor density (Air = 1): 0.7 [water] Relative density (Specific gravity): 1.0 [water] Solubility(ies): Complete. | Partition coefficient: (n-octanol / water): No data available Auto-ignition temperature: No data available Decomposition temperature: No data available Viscosity: No data available Molecular formula: Mixture. Molecular weight: Mixture. |
|--|--|--|

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatible materials: Oxidizing agents, such as hydrogen peroxide, nitric acid, perchloric acid or chromium trioxide. Strong alkalis such as sodium hydroxide.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 3310 mg/kg ; Dermal-rabbit LD50: 1060 mg/kg ; Inhalation-rat LC50: 4640 ppm/4 hour (11.4 mg/l/4 hour) [Acetic acid]

Skin corrosion/irritation: Data not available at this dilution.

Serious eye damage/irritation: Data not available at this dilution.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Inhalation: May be harmful if inhaled. Material may cause irritation to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin: May cause irritation.

Eyes: May cause irritation.

Signs and symptoms of exposure: Data not available at this dilution.

Additional information: RTECS #: AF1225000 [Acetic acid]

Section 12 Ecological Information

Toxicity to fish: Low chronic toxicity to fish [Acetic acid]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (water flea) 300.82 mg/l / 48 hours [Acetic acid]

Toxicity to algae: Skeletonema costatum 300.82 mg/l / 72 hours - low toxicity to algae [Acetic acid]

Persistence and degradability: Readily biodegradable

Bioaccumulative potential: 0.5 (estimated)

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: Yes

Marine pollutant: No

Exceptions: Not applicable

2016 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component | TSCA | CERLCA (RQ) | RCRA code | DSL | NDSL |
|-------------|--------|--------------------|------------|------------|------------|
| Acetic acid | Listed | 5000 lbs (2270 kg) | Not listed | Not listed | Not listed |

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.