SAFETY DATA SHEET

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Section 1 Chemical Product and Company Identification

ward's science+

 Boreal Science

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Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

| Product WINKLER'S SOLUTION #2 | |
|---|---|
| Synonyms Winkler's Oxygen Determination Solution | |
| Section 2 Hazards Identification | |
| Signal word: DANGER Pictograms: GHS05 Target organs: Respiratory tract, gastrointestinal tract, eyes, skin, thyroid | Precautionary statement: P260: Do not breathe mist/vapours/spray. P264: Wash hands thoroughly after handling. P272: Contaminated work clothing should not be allowed out of the workplace. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P363: Wash contaminated clothing before reuse. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310: Immediately call a POISON CENTER or doctor. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do. Continue rinsing. P405: Store locked up. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations. |

| Section 3 Compos | ition / information on ing | greaients | | | |
|---|----------------------------|-------------------------------------|-------------------------|-------------------------------------|--|
| Chemical Name | | CAS # | % | EINECS | |
| Sodium hydroxide Water Potassium iodide | | 1310-73-2 7732-18-5 7681-11-0 | 53.4% 30.8% 15.8% | 215-185-5 231-791-2 231-659-4 | |
| Section 4 First Aid | Moasuros | | | | |

Section 4 First Aid Measures

INGESTION: MAY BE FATAL 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: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE DAMAGE. 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 SEVERE SKIN 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: Dry chemical, CO2 or water spray.

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: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume Contact with metals can generate hydrogen gas. Contact with water produces intense heat and highly irritating and corrosive mist.

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.

Section 7 Handling & Storage

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 Pro | tection | | |
|------------------|----------------------------------|-----------------------------|--------------------------|-----------------------------|
| Exposure Limits: | Chemical Name | ACGIH (TLV) | OSHA (PEL) | NIOSH (REL) |
| Exposure Linits. | Sodium hydroxide | STEL: C 2 mg/m ³ | TWA: 2 mg/m ³ | STEL: C 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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

| Section 9 | Physical & Chemical Prop | erties | | | | | |
|---|--|---|---|---|---|--|---|
| Odor: No odor. Odor threshold pH: Data not av Melting / Freezing p | point: Approximately 0°C (32°F) (water) pproximately 100°C (212°F) (water) | Flammability Explosion lim Vapor pressu Vapor density Relative density | rate (Water = 1): >1 (solid/gas): Data not ar nits: Lower / Upper: Da re (mm Hg): 14 (water) y (Air = 1): 0.7 (water) y (Specific gravity): Appro): Complete in water. | ata not available | Auto-igniti Decompos Viscosity: Molecular | • | : Data not available Ire: Data not available. ble. e |
| Section 10 | Stability & Reactivity | | | | | | |
| Chemical stabil Conditions to a | ity: Stable void: Excessive temperatures which | | lous polymerization: W ation. Absorbs moisture | | with carbon d | ioxide to form so | dium carbonate. |
| Incompatible m | aterials: Metals, acids, organic com | ipounds, organi | c nitro compounds. | | | | |
| Hazardous deco | omposition products: Sodium oxid | e. Reacts with | metals to form flammabl | e and explosive hyd | rogen gas. | | |
| Section 11 | Toxicological Information | | | | | | |
| Respiratory or Germ cell muta Carcinogenity: NTP: No compo OSHA: No compo OSHA: No comp Reproductive to STOT-single ex STOT-repeated | mage/irritation: Eyes - rabbit - Seve skin sensitization: Data not availab genicity: Data not available Data not available nent of this product present at levels onent of this product present at levels onent of this product present at levels onent of this product present at level poxicity: Data not available posure: Data not available exposure: Data not available | greater than or greater than o | equal to 0.1% is identifie r equal to 0.1% is identifi | ed as a known or ant ied as probable, pos | sible or confi | med human card | |
| Potential health Inhalation: May Ingestion: May J Skin: May be ha Eyes: Causes s Signs and sym edema, burning and upper respin Additional infor | India not available India offects: be harmful if inhaled. Material is extract and the second sec | ses skin burns. mation and ede is, shortness of | ma of the larynx, spasm, breath, headache, naus | , inflammation and e | dema of the b | pronchi, pneumor | |
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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.