TED PELLA, INC.
Microscopy Products for Science and Industry

Material Safety Data Sheet
Product No. 19540 Sodium Hydroxide, 2N Solution, carbonate-free

Issue Date (12-24-08)
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Section 1: Product and Company Identification

Product Name: Sodium Hydroxide, 2N Solution, carbonate-free

Synonym: None

Company Name
Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477
Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA regulated
Sodium hydroxide (1310-73-2)	8	2	2	No	No	No
Water (7732-18-5)	92	ND	ND	No	No	No

Section 3: Hazard Identification

Emergency overview

Appearance: Clear liquid.
Immediate effects: potential acute health effects: Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. This product may irritate eyes and skin upon contact. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential health effects

Primary Routes of entry: Skin and eye contact, ingestion, inhalation of mist or vapors.
Signs and Symptoms of Overexposure: Itching, scaling, reddening or blistering.
Eyes: Very dangerous in case of eye contact (corrosive, irritant).
Skin: Very dangerous in case of skin contact (corrosive, irritant).

Ingestion: Very dangerous in case of ingestion (corrosive, irritant). May be fatal if swallowed. May cause severe and permanent damage to the digestive tract. Causes severe gastrointestinal tract irritation and burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause corrosion and permanent destruction of the esophagus and digestive tract (Sodium hydroxide).
Inhalation: Slightly dangerous to dangerous in case of inhalation.
Chronic Exposure: Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly
toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Chemical Listed As Carcinogen Or Potential Carcinogen: No
See Toxicological Information (Section11)

Potential environmental effects

See Ecological Information (Section 12)

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately.
Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. Serious contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Note to physician

Treatment: ND
Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: NA
Flammable Limits: NA
Auto-ignition point: NA
Fire Extinguishing Media: NA
Special Fire Fighting Procedures: NIF
Unusual Fire and Explosion Hazards: Non-explosive in presence of open flames and sparks, of shocks.
Hazardous combustion products: NA
DOT Class: Corrosive.

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Small Spill: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If
necessary: Neutralize the residue with a dilute solution of acetic acid. Large Spill: Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with dry earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage

Precautions to be taken in Handling and Storage: Store in original plastic container. Keep container tightly closed. Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product (can produce extreme heat). In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as metals.

Storage temperature: Keep container in a cool, well-ventilated area.

Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection Equipment

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Protective gloves: Wear chemical impervious gloves

Skin protection: Face Shield, protective impervious full suit, rubber boots.

Eye protection: Face Shield

Additional clothing and/or equipment: Shower and eye wash station. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective
clothing might not be sufficient; consult a specialist before handling this product.

Exposure Guidelines

See Composition/Information on Ingredients (Section2)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Clear colorless liquid.

Odor (threshold): Odorless.

Specific Gravity (H_2O=1): 1.04
Vapor Pressure (mm Hg): 17.535 mm of Hg (@20oC) based on data for: Water
Vapor Density (air=1): 0.62 (Air = 1) based on data for: Water.
Percent Volatile by volume:

Evaporation Rate (butyl acetate=1):
Boiling Point: The lowest known value is 100°C (212°F) (Water).
Freezing point / melting point: ND
pH: Basic or Alkaline.
Solubility in Water: Easily soluble in cold water, hot water.
Molecular Weight: Sodium Hydroxide: 40 g/mole

Section 10: Stability and Reactivity
Stability: Stable under normal conditions. Keep lid tight.
Conditions to Avoid: Incompatible materials. Hygroscopic.
Materials to Avoid (Incompatibility): Very slightly too slightly corrosive in presence of glass. Reactive with metals. Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.
Hazardous Decomposition Products: NA
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information
Results of component toxicity test performed: Sodium hydroxide (1310-73-2): IDLH, 10 mg/m3. Lowest published human lethal oral dose, 1.57 mg/kg of body weight.
Human experience: May affect genetic material. Investigation as a mutagen (cytogenetic analysis) (Sodium hydroxide)
This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information
Ecological Information: ND
Chemical Fate Information: ND

Section 13 Disposal Considerations
RCRA 40 CFR 261 Classification: ND
Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information
US DOT Information: Proper shipping name: Sodium hydroxide, solution (Sodium hydroxide)
Hazard Class: 8
Packaging group: II
UN Number: UN1824
IATA: Proper shipping name: Sodium hydroxide, solution (Sodium hydroxide)
Hazard Class: 8

Packing group: II
UN Number: UN1824
IMO: Proper shipping name: Sodium hydroxide, solution (Sodium hydroxide)
Class: 8
UN Number: UN1824
Packing group: II
Marine Pollutant:
Canadian TDG: Sodium hydroxide, solution (Sodium hydroxide)

Section 15: Regulatory Information
United States Federal Regulations
MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.
SARA: ND
SARA Title III:
RCRA: ND
TSCA: Sodium hydroxide TSCA 8(b) inventory:
CERCLA: Hazardous substances: Sodium hydroxide (1310-73-2): RQ = 1000 lbs. (453.6 kg)
State Regulations
California Proposition 65: No
International Regulations
Canada WHMIS: Class D-2A: Material causing other toxic effects (Very Toxic). Class E: Corrosive liquid.
Europe EINECS Numbers:

Section 16: Other Information
Label Information: Corrosive, Toxic
European Risk and Safety Phrases: R35-Causes severe burns. R42-May cause sensitization by inhalation. R36/37/38-Irritating to eyes, respiratory system and skin.
European symbols needed: ND
Canadian WHMIS Symbols: ND
HMIS® Hazard Rating: Health: **3**; Flammability: **0**; Physical Hazard: **0**; Personal Protection: **J**
NFPA Hazard Rating: Health: **3**; Flammability: **0**; Instability: **0**; Special Hazards **ALK** Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Face shield
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)
Abbreviations used in this document
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

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information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.