

MATERIAL SAFETY DATA SHEET

A Product Of: Arrow Paper Corporation
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Date: 1-1-2005
Ref. No.: 6208
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SECTION I - PRODUCT IDENTIFICATION

Trade Name: TORNADO
Chemical name / synonyms: Sodium Hypochlorite Solution
Formula: Mixture
D.O.T.: Compounds, Cleaning Liquid (Contains Sodium Hydroxide & Sodium Hypochlorite) 8, NA 1760, PG III
HMIS CODE: Health 2, Fire 0, Reactivity 2
HMIS KEY: 4=Extreme, 3=High, 2=Moderate, 1=Slight, 0=insignificant

SECTION II - HAZARDOUS INGREDIENTS

Substance	% Composition	TLV
Sodium Hypochlorite CAS# 7681-52-9	4	Unlisted
Sodium Hydroxide CAS# 1310-73-2	1	2 mg/m3

SECTION III - PHYSICAL DATA

Boiling Pt (°F): 212
Vapor Pressure(mm Hg): NA
Vapor Density (air=1): NA
Solubility in water: complete
Appearance and Odor: Water white liquid, distinctive odor

Specific Gravity: 1.05
Percent Volatile: NA
Evaporation Rate: (water=1) 1
pH: 13

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Pt (°F): None
test method: NA
Extinguishing Media: As necessary for surrounding fire.
Special fire fighting procedures: NA
Unusual fire and explosion hazard: Danger of chlorine gas being involved.

Flammable limits in air (vol%)
Upper: NA Lower: NA

SECTION V - HEALTH HAZARD DATA ROUTES OF ENTRY

Threshold Limit Value: See Section II
Acute Effects of Overexposure: EYES-causes severe burns. May cause irreparable damage, and/or loss of vision. SKIN-corrosive action causes burns. Prolonged contact destroys tissues. INHALATION-mist may cause damage to the upper respiratory tract and lung tissue depending on extent of exposure. Effects range from mild irritation of mucous membranes, severe pneumonitis and lung tissue destruction. INGESTION-can cause very severe damage to mouth, esophagus, stomach. May be fatal.
Chronic Effects of Exposure: local effect may consist of multiple areas of superficial destruction of the skin or of primary dermatitis. Similarly, inhalation of the spray or mist may result in varying degrees of irritation.

Emergency and first aid procedures: EYES-flush with plenty of cool water for at least 15 minutes. Hold eyelids open during this flushing with water. Obtain medical attention. SKIN-immediately flush skin with plenty of water while removing contaminated clothing and boots. Call a physician. If skin feels slippery, caustic may still be present in sufficient quantities to cause rash or burn. Continue washing until slick skin feeling is gone. Thoroughly clean contaminated clothing and boots before reuse or discard. INHALATION-remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen.

INGESTION- If conscious, drink large quantities of water. Do not induce vomiting. Take immediately to a hospital or physician. If vomiting occurs spontaneously, keep airway clear. If unconscious or in convulsions, take immediately to hospital. Do not attempt to induce vomiting or give anything by mouth to an unconscious person.

SECTION VI - REACTIVITY DATA

Stability: unstable
Conditions to avoid: Avoid mixing concentrate with strong acids, organics, heat, fire.
Hazardous decomposition products: carbon monoxide, chlorine and unidentified organic compounds may be formed during combustion.
Hazardous polymerization products: Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURE

Steps to be taken if material is released or spilled:
Large spills: Dike and contain. Place in non leaking containers for disposal agency. Avoid contamination of food. Toxic to fish and wild life. Small spills: soak or mop up. Small spills may be flushed to sewer.
Waste disposal method: Small quantities will evaporate readily. Large amounts should be given to licensed disposal agency.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved respirator for chlorine solutions if product is to be sprayed.
Ventilation -local exhaust: recommended
-mechanical exhaust: recommended
Protective gloves: rubber Eye protection: chemical goggles if contact is likely.
Other protective equipment: rubber shoes, rubber gloves, cotton clothing.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store above 35°F.
Keep container tightly closed when not in use. Store in a cool dry area away from sunlight and heat to avoid deterioration. Decomposes with age, heat, light. Rotate stock.
Other precautions: KEEP OUT OF REACH OF CHILDREN.
NA means NOT APPLICABLE on this form.

The information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties, and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described on the label or on the Product Data Sheet is the responsibility of the user.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazardous Communication Regulation and Massachusetts Right to Know Law.