

SAFETY DATA SHEET

1. Identification

Product identifier	Sodium Hydroxide Solution 25-50%	
Other means of identification		
SDS number	AUC-003	
Synonyms	Sodium hydroxide * Soda lye solution * Caustic soda solution * Caustic soda * Lye * Liquid caustic	
Recommended use	Water Treatment; pH Neutralizer; Pulping and Bleach; Manufacture of Detergents and Soaps	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Allied Universal Corporation	
Address	3901 N.W. 115th Avenue Miami, FL 33178 United States	
Telephone	General:	1-305-888-2623
	24-Hour alert:	1-786-522-0207
Website	www.allieduniversal.com	
E-mail	Not available.	
Contact person	Operations Department	
Emergency phone number	CHEMTREC	1-800-424-9300 (US/Canada) +01 703-527-3887 (International)
Supplier	Refer to Manufacturer	

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
OSHA defined hazards	This mixture does not meet the classification criteria according to OSHA HazCom 2012.	
Label elements		



Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. May cause respiratory irritation.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection.
Response	Specific treatment (see this label). IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Absorb spillage to prevent material damage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) No OSHA defined hazard classes.
Other hazards which do not result in classification: Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides. Chronic skin contact with low concentrations may cause dermatitis.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium hydroxide	Caustic soda Lye Soda lye	1310-73-2	25 - 50

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Skin contact Take off immediately all contaminated clothing. Immediately flush skin with running water for at least 20 minutes. Cover wound with sterile dressing. Do not rub area of contact. Wash contaminated clothing before reuse. Leather and shoes that have been contaminated with the solution may need to be destroyed. Call a physician or poison control center immediately.

Eye contact Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take care not to rinse contaminated water into the unaffected eye or onto the face. Call a physician or poison control center immediately.

Ingestion If swallowed: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Indication of immediate medical attention and special treatment needed Immediate medical attention is required. Causes chemical burns. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire. Some chemical extinguishing agents may react with this material. Do not use halogenated extinguishing agents.

Specific hazards arising from the chemical Not considered flammable. Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. The heat that is generated may be sufficient enough to ignite nearby combustible materials. Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides. Toxic fumes, gases or vapors may evolve on burning.

Special protective equipment and precautions for firefighters Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.

Fire fighting equipment/instructions Fight fire with normal precautions from a reasonable distance. Evacuate the area promptly. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

Hazardous combustion products

Sodium oxides.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Ventilate the area. Remove sources of ignition. Stop leak if you can do so without risk. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Small Spills: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Dilute alkali with water and neutralize with acids (e.g. acetic acid / vinegar).

Large Spills: Prevent entry into waterways, sewer, basements or confined areas. If not recoverable, dilute with water or flush to holding area and neutralize. Remove with vacuum trucks or pump to storage/salvage vessels. Contact the proper local authorities.

Never return spills to original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and storage

Precautions for safe handling

Use only outdoors or in a well-ventilated area. Wear chemically resistant protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe mist. Do not taste or swallow. Avoid contact with eyes, skin and clothing. Keep away from heat. Keep away from metals and other incompatibles. When preparing or diluting solution, always add to water, slowly and with stirring. Use cold water to prevent excessive heat generation. When diluting, always add the product to water. Never add water to the product. Label containers appropriately. Wash thoroughly after handling. When using, do not eat, drink or smoke. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS). Store in original tightly closed container. May be corrosive to Aluminum, stainless steels, carbon steel, copper, bronze, etc. Store in corrosive resistant/ container with a resistant inner liner. Compatible storage materials may include, but are not limited to the following: nickel and nickel alloys, steel, plastics, plastic or rubber-lined steel, FRP, or Derakane vinyl ester resin. Do not allow material to freeze.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear eye/face protection. Chemical goggles and face shield are recommended.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Advice should be sought from glove suppliers.
Other	Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. Eye wash facilities and emergency shower must be available when handling this product.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Do not breathe mist. Avoid contact with eyes, skin and clothing. When using, do not eat, drink or smoke. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Clear to slightly turbid, viscous liquid.
Physical state	Liquid.
Form	Viscous liquid.
Color	Clear water-white
Odor	Odorless.
Odor threshold	Not available.
pH	> 14 (at high alkali concentration in water, pH scale is not applicable)
Melting point/freezing point	-13 °F (-25 °C) (25% concentration)
Initial boiling point and boiling range	284 °F (140 °C) (50% concentration) 240.8 °F (116 °C) (25% concentration)
Flash point	Not Applicable
Evaporation rate	Not applicable (the only evaporation that occurs is water)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not Applicable
Flammability limit - upper (%)	Not Applicable
Explosive limit - lower (%)	Not Applicable
Explosive limit - upper (%)	Not Applicable
Vapor pressure	0.2 kPa 1.5 mm Hg 95 mm Hg @ 60°F
Vapor pressure temp.	77 °F (25 °C)
Vapor density	Not available.
Relative density	1.52 g/cm ³ (50% concentration)
Relative density temperature	68 °F (20 °C)
Solubility(ies)	
Solubility (water)	Soluble in all proportions.

Solubility (other)	Soluble in absolute alcohol, methanol and glycerol. Moderately soluble in ethanol. Insoluble in acetone and diethyl ether.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not Applicable
Decomposition temperature	Not available.
Viscosity	25.39 cSt (40% solution)
Viscosity temperature	68 °F (20 °C)
Other information	
Specific gravity	1.29 (25% concentration) 1.52 (50% concentration)

10. Stability and reactivity

Reactivity	Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. May be corrosive to Aluminum, stainless steels, carbon steel, copper, bronze, etc.
Chemical stability	Material is stable under normal conditions. Rapidly absorbs moisture and carbon dioxide from the air forming sodium carbonate. Water, when added to sodium hydroxide may cause localized overheating and possible spattering.
Possibility of hazardous reactions	Reacts vigorously, violently or explosively with many organic and inorganic chemicals, such as strong acids, acid chlorides, acid anhydrides, ketones, glycols and organic peroxides. Attacks plastics, such as polyamide-imide (Torlon) (10-100% solutions), polybutylene terephthalate and polyethylene terephthalate (20-100%), thermoset polyester isophthalic acid (10-100%), polyvinylidene fluoride (Kynar; PVDF) (70-100% solutions), polyurethane (riged) (80-100%), and polyvinylidene chloride (Saran) (100%); elastomers, such as polysulfide and butadiene-styrene (SBR) (10-100%) and soft rubber (30-100%) (52,55); and coatings, such as polyester and vinyls (10-100%), coal tar epoxy, general purpose epoxy, epoxy polyamide and phenolic (7 -100%).
Conditions to avoid	Contact with incompatible materials. Avoid high temperatures. Do not use in areas without adequate ventilation.
Incompatible materials	Metals. Acids. Sodium borohydride. Tetrahydrofuran. Chlorinated compounds. Maleic anhydride. Cyanogen azide. Nitroalkanes. Silver nitrate. Ammonia. Acetaldehyde. Acrolein. Acrylonitrile. Allyl alcohol. Phosphorus. Hydroquinone. Sugars. Methanol. Zinc. Aluminum. Tin.
Hazardous decomposition products	None known. In the event of fire the following can be released: Sodium oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause severe irritation to the nose, throat, and respiratory tract.
Skin contact	Causes severe skin burns. Not expected to be absorbed through the skin.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Most important symptoms/effects, acute and delayed

Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Information on toxicological effects

Acute toxicity	There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.
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Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	No Data in Literature

Components	Species	Test Results
<i>Inhalation</i> LC50	Rat	No Data in Literature
<i>Oral</i> LD50	Rat	No Data in Literature

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Hazardous by OSHA criteria. Skin corrosion/irritation - Category 1. Causes severe skin burns.
Serious eye damage/eye irritation	. Hazardous by OSHA criteria. Serious eye damage/eye irritation - Category 1 Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	Not expected to be a respiratory sensitizer.
Skin sensitizer	Causes skin burns.
Germ cell mutagenicity	Not expected to be mutagenic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Hazardous by OSHA criteria. Specific Target Organ Toxicity (STOT), Single Exposure. Category 3. May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Not classified as a specific target organ toxicity -repeated exposure.
Aspiration toxicity	Not expected to be an aspiration hazard.
Chronic effects	Chronic skin contact with low concentrations may cause dermatitis.

12. Ecological information

Ecotoxicity	Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. However, may be neutralized by naturally occurring acidity in the environment. The ingredient ecotoxicity data appearing below is expected to be primarily associated with pH.
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Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Ceriodaphnia dubia) 40 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis) 125 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product. Biodegradation is not applicable to inorganic substances.	
Bioaccumulative potential	No accumulation in living organisms is expected due to high solubility and dissociation properties.	
Mobility in soil	High water solubility indicates a high mobility in soil.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. US CERCLA Reportable Quantity (RQ): 1000 lbs / 454 kg
Special provisions	B2, IB2, N34, T7, TP2
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1824
UN proper shipping name	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

DOT





15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	12-19-2014
Version #	01
HMIS	H= 3, F= 0, R= 0
NFPA	H= 3, F= 0, R= 1



Certified to
NSF/ANSI 60

Maximum Use in Potable Water for Sodium Hydroxide 25%: 200 mg/L. Maximum Use in Potable Water for Sodium Hydroxide 50%: 100 mg/L.

List of abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
EINECS: European Inventory of Existing Commercial chemical Substances
EPA: Environmental Protection Agency
EPCRA: Emergency Planning and Community Right-to-Know Act
HSDB® - Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
LC: Lethal Concentration
LD: Lethal Dose
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Cooperation and Development
OSHA: Occupational Safety and Health Administration
PPE: Personal Protective Equipment
RCRA: Resource Conservation and Recovery Act
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values
TWA: Time Weighted Average

Disclaimer

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Disclaimer

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Bibliography

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Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases, 2014
(Chempendium, RTECs, HSDB, INCHEM)
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