



# Scientific Documentation

## SO170, Sodium Hydroxide, Pellets, NF

Not appropriate for regulatory submission.  
Please visit [www.spectrumchemical.com](http://www.spectrumchemical.com) or  
contact Tech Services for the most up-to-date  
information contained in this information  
package.

### **Spectrum Chemical Mfg Corp**

769 Jersey Avenue  
New Brunswick, NJ 08901  
Phone 732.214.1300



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We appreciate your business and we look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to be "Alan Wang", written over a light gray rectangular background.

Alan Wang, MSQA, ASQ CQA  
Senior Manager, Global Supplier Quality Assurance  
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**SO170**, Sodium Hydroxide, Pellets, NF

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## Specification for Sodium Hydroxide, Pellets, NF (SO170)

Item Number	SO170
Item	Sodium Hydroxide, Pellets, NF
CAS Number	1310-73-2
Molecular Formula	NaOH
Molecular Weight	40.00
MDL Number	
Synonyms	Caustic Soda ; Soda Lye

Test	Specification	
	Min	Max
ASSAY (TOTAL ALKALI INCLUDING A MAX. OF 3.0% (Na <sub>2</sub> CO <sub>3</sub> ))	95.0 - 100.5 %	
INSOLUBLE AND ORGANIC MATTER		TO PASS TEST
POTASSIUM (K)		TO PASS TEST
HEAVY METALS		0.003 %
IDENTIFICATION		TO PASS TEST
EXPIRATION DATE		
RESIDUAL SOLVENTS		TO PASS TEST

### *Spectrum Chemical Mfg Corp*

**Corporate Headquarters:**  
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**West Coast Facility:**  
14422 S. San Pedro St.  
Gardena, CA 90248  
310.516.8000

# SAFETY DATA SHEET

Preparation Date: 3/19/2014

Revision Date: 3/19/2014

Revision Number: G1

## 1. IDENTIFICATION

### Product identifier

**Product code:** SO170  
**Product Name:** SODIUM HYDROXIDE, PELLETS, NF

### Other means of identification

**Synonyms:** Caustic Soda  
Soda Lye  
**CAS #:** 1310-73-2  
**RTECS #** WB4900000  
**CI#:** Not available

### Recommended use of the chemical and restrictions on use

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemicals and Laboratory Products, Inc.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Regina Wachenheim (East Coast)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

### Label elements

## Danger

### Hazard statements

Causes severe skin burns and eye damage  
Harmful in contact with skin  
May be corrosive to metals



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### **Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Keep only in original container

### **Precautionary Statements - Response**

Specific measures (see .? on this label)  
Immediately call a POISON CENTER or doctor/physician  
Specific treatment (see .? on this label)  
Absorb spillage to prevent material damage  
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.  
Call a POISON CENTER or doctor/physician if you feel unwell  
Wash contaminated clothing before reuse  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.  
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

### **Precautionary Statements - Storage**

Store locked up  
Store in corrosive resistant/.? container with a resistant inner liner

### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Sodium Hydroxide 1310-73-2	1310-73-2	100	*

### 4. FIRST AID MEASURES

#### First aid measures

##### **General Advice:**

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

##### **Skin Contact:**

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.

##### **Eye Contact:**

Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

##### **Inhalation:**

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.

##### **Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

#### **Most important symptoms and effects, both acute and delayed**

##### **Symptoms**

Severe skin and eye irritation or burns. Causes digestive (gastrointestinal) tract irritation. May cause gastrointestinal (digestive) tract burns. May cause abdominal pain, nausea, vomiting, diarrhea.

#### **Indication of any immediate medical attention and special treatment needed**

##### **Notes to Physician:**

Treat symptomatically

#### **Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

### 5. FIRE-FIGHTING MEASURES

#### **Extinguishing Media**

##### **Suitable Extinguishing Media:**

The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

##### **Unsuitable Extinguishing Media:**

No information available.

#### **Specific hazards arising from the chemical**

**Hazardous Combustion Products:**

Sodium oxides

**Specific hazards:**

No information available..

**Special Protective Actions for Firefighters****Specific Methods:**

No information available.

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****Personal Precautions:**

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up****Methods for containment**

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up**

Use appropriate tools to put the spilled solid in a suitable waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE****Precautions for safe handling****Technical Measures/Precautions:**

Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

**Safe Handling Advice:**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities****Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**

Oxidizing agents. Reducing agents. Acids. Bases. aldehydes. Metals. Powdered metals. Water.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****National occupational exposure limits****United States**



Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Sodium Hydroxide - 1310-73-2	2 mg/m <sup>3</sup> TWA	2 mg/m <sup>3</sup> Ceiling	2 mg/m <sup>3</sup> Ceiling	None

### Canada

Components	Alberta	British Columbia	Ontario	Quebec
Sodium Hydroxide - 1310-73-2	2 mg/m <sup>3</sup> Ceiling	2 mg/m <sup>3</sup> Ceiling	2 mg/m <sup>3</sup> Ceiling	2 mg/m <sup>3</sup> Ceiling

### Australia and Mexico

Components	Australia	Mexico
Sodium Hydroxide 1310-73-2	None	2 mg/m <sup>3</sup> Ceiling

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Face-shield.
- Skin and body protection:** Chemical resistant protective suit. Gloves. boots.
- Respiratory protection:** Wear respirator with dust filter..
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Pellets. Flakes.	<b>Color:</b> White.
<b>Odor:</b> No information available	<b>Taste</b> No information available	<b>Formula:</b> NaOH
<b>Molecular/Formula weight:</b> 40	<b>Flash point (°C):</b> No data available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available	<b>Melting point/range(°C/°F):</b> 323 °C/613.4 °F
<b>Boiling point/range(°C/°F):</b> 1388 °C/2530.4 °F	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Specific gravity:</b> 2.13
<b>Density (g/cm3):</b> No information available	<b>Bulk density:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Freely soluble in water	

## 10. STABILITY AND REACTIVITY

### Reactivity

## 10. STABILITY AND REACTIVITY

Sodium hydroxide + zinc metal dust causes ignition of the latter.

Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, allyl alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2-dichloroethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane.

Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials.

Phosphorus boiled with NaOH yields mixed phosphines which may ignite spontaneously in air.

Sodium hydroxide and cinnamaldehyde + heat may cause ignition.

Reaction with certain metals releases flammable and explosive hydrogen gas.

Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate.

Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aqueous sodium hydroxide, under vacuum distillation, residue darkened and exploded.

Sodium Hydroxide + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions.

Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 deg. C.

Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process.

Generates considerable heat when a sodium hydroxide solution is mixed with an acid

Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahydrofuran is very exothermic, a mild explosion being noted on one occasion.

Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric), acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), carbamates (e.g. carbanolate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (acetone, acetophenone, MEK, MIBK), acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e. aluminum, tin, zinc, hafnium, raney nickel), metals (alkali and alkaline e.g. cesium, potassium, sodium), metal compounds (toxic e.g. beryllium, lead acetate, nickel carbonyl, tetraethyl lead), nitriles (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic e.g. nitrobenzene, nitromethane), acetic anhydride, hydroquinone, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrosulfuric acid, oleum, propiolactone, acylonitrile, phosphorus pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5-tetrachlorobenzene, cinnamaldehyde.

Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen.

### Chemical stability

**Stability:** Stable at normal conditions

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Exposure to moisture. Exposure to water. Incompatible materials.

**Incompatible Materials:** Oxidizing agents. Reducing agents. Acids. Bases. aldehydes. Metals. Powdered metals. Water.

**Hazardous decomposition products:** Sodium oxides.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** Very caustic to aluminum and other metals in the presence of moisture

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### **Principal Routes of Exposure:**

Skin. Inhalation. Ingestion.

#### **Acute Toxicity**

## Component Information

*Sodium Hydroxide - 1310-73-2*

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = 1350 mg/kg Dermal LD50Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 500 mg/kg Oral LDL(Lowest Lethal Dose) Rabbit

## Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = No information available

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = 1350mg/kg

**LD50/dermal/rat**  
**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

## Symptoms

**Skin Contact:** Severe skin irritation. Causes skin burns. May cause deep penetrating ulcers of the skin. Harmful in contact with skin.

**Eye Contact:** Severe eye irritation. Causes eye burns. May cause corneal damage.

**Inhalation** Causes severe irritation of the respiratory tract and mucous membranes with coughing, burns, breathing difficulty, and possible coma. Irritation may lead to chemical pneumonitis and pulmonary edema. Causes chemical burns to the respiratory tract and mucous membranes.

**Ingestion** Causes severe gastrointestinal tract irritation and burns. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause corrosion and permanent destruction of the esophagus.

**Aspiration hazard** No information available

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** No information available  
**Sensitization:** No information available

**Product code:** SO170

**Product name:** SODIUM HYDROXIDE,  
PELLETS, NF

**8 / 13**

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Sodium Hydroxide	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available

**STOT - repeated exposure** No information available

**Target Organs:** Skin. Eyes. Respiratory system.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Sodium Hydroxide - 1310-73-2*

**Freshwater Fish Species Data:** 45.4 mg/L LC50 Oncorhynchus mykiss 96 h static 1

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** No information available

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Sodium Hydroxide	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid  
**Hazard Class:** 8  
**Subsidiary Risk:** Not applicable  
**Packing Group:** II  
**Marine Pollutant:** No data available  
**ERG No:** 154  
**DOT RQ (lbs):** No information available  
**Symbol(s):** R4

### TDG (Canada)

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** No information available

### ADR

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid  
**Hazard Class:** 8  
**Subsidiary Risk:** 8  
**Packing Group:** II  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid

## 14. TRANSPORT INFORMATION

**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** No information available

### IATA

**UN-No:** UN1823  
**Proper Shipping Name:** Sodium hydroxide, solid  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 8L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Sodium Hydroxide	Present	Present KE-31487	Present	Present (2)-1972 (1)-410	Present	Present	Present 215-185-5

### U.S. Regulations

#### Sodium Hydroxide

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** Present  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**Pennsylvania RTK:** Environmental hazard  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
 1000 lb RQ  
 100 lb RQ  
**Louisiana Reportable Quantity List for Pollutants:** 1000lbfinal RQ  
 454kgfinal RQ  
**California Directors List of Hazardous Substances:** Present  
**FDA - Food Additives Generally Recognized as Safe (GRAS):** 21 CFR 184.1763

### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

#### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

#### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Sodium Hydroxide	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Sodium Hydroxide	1000 lb final RQ 454 kg final RQ	None	None	None	None

**U.S. TSCA**

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Sodium Hydroxide	Not Applicable	Not Applicable

**Canada****WHMIS hazard class:**

E Corrosive material

**Sodium Hydroxide**

E including 0.04% in aqueous solution, 0.08%, 0.4% in aqueous solution, 2%, 2.5%, 4% in aqueous solution, 5%, 10%, 16%, 20%, 40%, 50% in aqueous solution, 8.7N

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Sodium Hydroxide	1 %

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Sodium Hydroxide	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Sodium Hydroxide	Not listed	Not listed

**EU Classification****R-phrase(s)**

R35 - Causes severe burns.

**S -phrase(s)**

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 1/2 - Keep locked up and out of the reach of children.

S37/39 - Wear suitable gloves and eye/face protection.

Components	Classification	Concentration Limits:	Safety Phrases
Sodium Hydroxide	C; R35	5%≤C: C; R:35 2%≤C<5%: C; R:34 0.5%≤C<2%: Xi; R:36/38	S1/2 S26 S37/39 S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

C - Corrosive.





## 16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	3
Fire Hazard	0
Reactivity	2



See Section 8.

Preparation Date: 3/19/2014  
Revision Date: 3/19/2014  
Prepared by: Sonia Owen

### Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Material Safety Data Sheet**







# Certificate of Registration

# Intertek

This is to certify that the quality management system of

## Spectrum China Ltd.

**Building A20, No. 3802, Shengang Road, Songjiang District, Shanghai, China**

has been assessed and registered by Intertek as conforming to the requirements of

## ISO 9001: 2008

The quality management system is applicable to:

*Provision of service of purchase, testing and sales for chemical products, repacking of non-hazardous chemical products.*

Organization Code: 77762704-8  
Certificate Number: 111310001-01  
Certificate Issue Date: 17 November 2015  
Certificate Expiry Date: 14 September 2018



014

A handwritten signature in black ink, appearing to read 'Calin Moldovean'.

*Authorised Signature: Calin Moldovean – President, Business Assurance  
Intertek Certification Limited, 10A Victory Park, Victory Road, Derby DE24 8ZF, United Kingdom*  
Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at [certificate.validation@intertek.com](mailto:certificate.validation@intertek.com) or by scanning the code to the right with a smartphone.  
The annual validity of the certificate can also be checked through the website <http://www.cnca.gov.cn> of CNCA in China.



The certificate remains the property of Intertek, to whom it must be returned upon request.





April 8, 2016

**Certificate of cGMP**

Dear Valued Customer:

Spectrum Chemicals and Laboratory Products certify that the following product(s) is produced, processed, packaged and held in compliance with current Good Manufacturing Practices (cGMP) in accordance with the applicable parts of 21 CFR, parts 210 and 211 of the Code of Federal Regulations.

Catalog Number	Product Name
SO170	Sodium Hydroxide, Pellets, NF

Spectrum is an FDA registered and inspected drug establishment. Our United States Food and Drug Administration (USFDA) Registration numbers are as follows:

Spectrum-Gardena, CA: 2020632  
Spectrum-New Brunswick, NJ: 2246824  
Spectrum-Shanghai, China: 3006174778

Thank you for your interest with Spectrum products. Please feel free to contact the Quality Assurance department at 310-516-8000 or via email at [qualityassurance@spectrumchemical.com](mailto:qualityassurance@spectrumchemical.com) if we may be of further assistance.

Sincerely,

Michelle Weston  
Quality Assurance Specialist



March 31, 2016

Re: Sodium Hydroxide, Pellets, NF-SO170

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

We at Spectrum Chemical Mfr. Corp. understand the concern regarding Bovine Spongiform Encephalopathy (BSE). Please be assured that the chemical

Sodium Hydroxide, Pellets, NF-SO170

is BSE/TSE free.

If you have any further questions, please contact Tech Services at (310) 516-8000 Extension 5471, or by email at [techservices@spectrumchemical.com](mailto:techservices@spectrumchemical.com).

Sincerely,

Darlene Dagdag- Lyudmirskiy  
Technical Services  
Spectrum Chemical Mfr. Corp.

This document has been produced electronically and is valid without a signature





March 31, 2016

Re: Sodium Hydroxide, Pellets, NF- SO170

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

We at Spectrum Chemical Mfr. Corp. understand the concern regarding the presence of allergens in raw materials. Please be assured that the following chemical does not contain (Peanuts (including, but not limited to: peanut flour, peanut oil, etc.), Tree Nuts (including, but not limited to: almonds, pecans, walnuts, hazelnuts, filberts, cashews, etc.), Milk and Derivatives (including but not limited to butter, milk, casein, whey, lactose, etc.), Egg & Egg Products (including, but not limited to: albumen, egg white, yolk, meringue, etc.), Fish (including, but not limited to: all types of freshwater or saltwater finfish, fish oil, fish meal, etc.), Shellfish (including, but not limited to : crustaceans (shrimp, crab, crayfish, lobster, etc.) and mollusks (oysters, clams, scallops, mussels, etc.), Soy or Soy Derived Products (including, but not limited to: miso, tofu, soy protein, textured vegetable protein, soy nuts, soy flour, soy lecithin, and soy oil (Unless Highly Refined – Refined, Bleached, and Deodorized), Wheat (including, but not limited to: gluten, flour, bran, etc.), Gluten (including, but not limited to: wheat, rye, barley, oats, etc.), Seeds or Seed Derivatives (including, but not limited to: caraway, cottonseed, sunflower seeds, poppy seeds, etc.), Celery (including, but not limited to: root, leaves, stalk, seeds, etc.), Sesame Seeds and Derivatives (including, but not limited to: sesame seed, sesame oil, etc.), Mustard (including, but not limited to: mustard seed, mustard oil, etc.), Sulfites - (including, but not limited to: sulfur dioxide, sodium metabisulfite or sodium bisulfite), Preservatives - (including, but not limited to: benzoates, benzoic acid, sorbates, sorbic acid), MSG - (Monosodium Glutamate), Grains (including, but not limited to: barley, oats, rice, etc.), Corn (including, but not limited to: maltodextrin, corn starch, corn syrup, etc.), Colors (including, but not limited to: FD&C Yellow 5 & 6, titanium dioxide, carmine, Tartrazine Dye, etc.), Yeast or Yeast Derivatives (including, but not limited to: Autolyzed Yeast Extract, Yeast Extract), Antioxidants - (including, but not limited to: Tocopherols, BHA, BHT), Added Diacetyl, Phenylalanine, Cereals, Buckwheat, Tomatoes, Peaches and Pork).

Sodium Hydroxide, Pellets, NF- SO170

If you have any further questions, please contact Tech Services at (310) 516-8000 Extension 5471, or by email at [techservices@spectrumchemical.com](mailto:techservices@spectrumchemical.com).



Sincerely,

Darlene Dagdag- Lyudmirskiy  
Technical Services  
Spectrum Chemical Mfr. Corp.

This document has been produced electronically and is valid without a signature



April 1, 2016

Re: Sodium Hydroxide, Pellets, NF-SO170

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

We at Spectrum Chemical Mfg. Corp. understand the concern regarding Aflatoxins in raw materials. To the best of our knowledge, the product listed below is not contaminated with Aflatoxins. Aflatoxins are not used in production. The following product does not come in contact with Aflatoxins at any stage of production.

Sodium Hydroxide, Pellets, NF-SO170

If you have any further questions, please contact Tech Services at (310) 516-8000 Extension 5471, or by email at [techservices@spectrumchemical.com](mailto:techservices@spectrumchemical.com).

Sincerely,

Darlene Dagdag- Lyudmirskiy  
Technical Services  
Spectrum Chemical Mfr. Corp.

This document has been produced electronically and is valid without a signature

## Label Information

The Spectrum label presents technical and safety information in an easily understood format. Our technical specialists stay abreast of the latest requirements of the Globally Harmonized System for Classification and Labelling of Chemicals (GHS), as well as the Occupational Safety and Health Administration (OSHA), the Food and Drug Administration (FDA) and other government regulatory agencies in order to ensure compliance, accuracy and concise hazard communication.

**SPECTRUM**<sup>®</sup>  
S0170 — **12 KG**

**Sodium Hydroxide**  
(Caustic Soda; Soda Lye)  
Pellets, N.F.

**NaOH** — **F.W. 40.00**

**DANGER**  
• Causes severe skin burns and eye damage • Harmful in contact with skin • May be corrosive to metals.  
• Wear protective gloves, protective clothing, eye protection, face protection • Do not breathe dust • Wash face, hands and any exposed skin thoroughly after handling • Keep only in original container • Absorb spillage to prevent material damage.  
**FIRST AID:** Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. If conscious, give milk or water. Never give anything by mouth to an unconscious person.

**CAUTION:** For manufacturing, processing or repacking.  
**Read and understand the label and Safety Data Sheet (SDS) prior to use.**

DOT: UN1823, Sodium hydroxide, solid, 8, PG II

**Chemical Emergency: (800)424-9300**  
www.SpectrumChemical.com

Assay (Total Alkali including a Max. of 3.0% Na<sub>2</sub>CO<sub>3</sub>) ..... 95.0-100.5%  
MAXIMUM LIMITS  
Insoluble Substances and Organic Matter.....  
.....To pass test  
Potassium .....To pass test  
Heavy Metals ..... 0.003%  
Residual Solvents .....To pass test

**WARNING:** This product contains a chemical known to the State of California to cause cancer.  
**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**DELIQUESCENT:** Keep tightly closed.

Exp. Date: 03-31-2025

**KEEP FROM CHILDREN**

W 11/D36GHS A Lot No. 062233

**SPECTRUM CHEMICAL MFG. CORP.** Gardena, CA 90248 • New Brunswick, NJ 08901

- A** Bar Code
- B** GHS Hazard Pictograms
- C** Warning, Safety Data and Precautionary Information
- D** Product Catalog Number
- E** Item Name, Form, Grade
- O** Storage Color Band
- F** Size/Quantity
- G** Chemical Abstracts Service (CAS) Registry Number
- H** Caution Information
- I** DOT Shipping Information
- J** Toll-Free 24-Hour Chemical Emergency Telephone Number
- K** Empirical Formula, Formula Weight and Technical Specifications Panel
- L** Expiration Information
- M** Lot Number

This color-coded band indicates the hazard most likely to be posed by that material under storage conditions. The criteria used to assign band colors have been established by the Storage Code working group of the Society for Chemical Hazard Communication (SCHC). It is recommended that like colors be stored together, unless otherwise stated, based on the color codes indicated to the right. However, it is the responsibility of the customer to check with their local fire department for possible conflicts with our recommendations when storing hazardous chemicals.

- YELLOW:** Oxidizer
- RED:** Flammable
- GREEN:** General Storage
- BLUE:** Health Hazard
- WHITE:** Corrosive

### Spectrum Chemical Mfg Corp

**Corporate Headquarters:**

769 Jersey Ave.  
New Brunswick, NJ 08901

732.214.1300

**West Coast Facility:**

14422 S. San Pedro St.  
Gardena, CA 90248

310.516.8000

Item Number	SO170	Lot Number	1FB0350
Item	Sodium Hydroxide, Pellets, NF		
CAS Number	1310-73-2		
Molecular Formula	NaOH	Molecular Weight	40.00

Test	Specification		Result
	min	max	
ASSAY (TOTAL ALKALI INCLUDING A MAX. OF 3.0% (Na <sub>2</sub> CO <sub>3</sub> ))	95.0 - 100.5 %		97.82 % 0.82 %
INSOLUBLE AND ORGANIC MATTER		TO PASS TEST	PASSES TEST
POTASSIUM (K)		TO PASS TEST	PASSES TEST
HEAVY METALS		0.003 %	<0.002 %
IDENTIFICATION		TO PASS TEST	PASSES TEST
EXPIRATION DATE			09-JUN-2020
RESIDUAL SOLVENTS		TO PASS TEST	NO RESIDUAL SOLVENTS USED
APPEARANCE			WHITE PELLETS
MANUFACTURE DATE			10-JUN-2015

Spectrum Chemical Mfg Corp  
14422 South San Pedro Street  
Gardena 90248 CA

Certificate of Analysis Results Certified By:



Adan Hernandez  
Quality Control Manager  
Spectrum Chemicals & Laboratory Products



All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

January 26, 2016

**RE: Lot Numbering System**

Dear Valued Customer:

This letter is to inform you of Spectrum Chemicals and Laboratory Products' Lot Numbering System. The system is based on an alpha-numerical sequence which provides the month, year and location of production.

The lot numbering system utilized until 2010 is a sequence of **six characters**, two letters followed by four numbers. The first letter represents the year, for example, Y denotes 2009 and Z denotes 2010. The second letter represents the month and site, for example, A-L denotes January through December at Spectrum's Gardena, CA facility, while M-X denotes January through December at the New Brunswick, NJ facility. The following four numbers are sequentially assigned.

**Example:** ZI0928 = The 928<sup>th</sup> material produced in California in September 2010

The lot numbering system utilized for 2011 and forward, is a sequence of **seven characters**. The first character, a number, represents the production facility:

- 1 = Gardena, CA Facility
- 2 = New Brunswick, NJ Facility
- 3 = China Facility

The second character, a letter, represents the year. For example, A denotes 2011 and B denotes 2012. The third character, a letter, represents the month, with A denoting January and L denoting December. The following four numbers are sequentially assigned.

**Example:** 2AA0706 = The 706<sup>th</sup> material produced in New Jersey in January 2011

Thank you for your interest with Spectrum products. Please feel free to contact us at 310-516-8000 or via email at [qualityassurance@spectrumchemical.com](mailto:qualityassurance@spectrumchemical.com) if we may be of further assistance.

Sincerely,



Michael Dang  
Manager, GMP Compliance



## Stability – Shelf Life Guidance

Product Covered: SO170, Sodium Hydroxide, Pellets, NF

Spectrum Chemical's manufacturing partner has assigned the following shelf life guidance for the product listed above.

The product, SO170, Sodium Hydroxide, Pellets, NF, is assigned a 60 months shelf life from date of manufacturing. The quality and integrity of the chemical depends on the handling and storage conditions. Please refer to the Safety Data Sheet for proper storage and handling procedures.

Adan R. Hernandez  
Quality Control Manager

A handwritten signature in black ink, appearing to read "Adan R. Hernandez".

Corporate Headquarters  
769 Jersey Avenue  
New Brunswick, NJ 08901-3605