

Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • PRS-100 Positive Resist Stripper

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Photographic process

1.3 Details of the supplier of the safety data sheet

Manufacturer • HTA Enterprises
 1605 Remuda Lane
 San Jose, CA 95112
 United States
 www.microchrometechnology.com

Telephone (General) • 408-452-5500

Telephone (General) • 703-741-5500 - Information CHEMTREC

1.4 Emergency telephone number

Manufacturer • 1-800-424-9300 - CHEMTREC in US

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

2.1 Classification of the substance or mixture

CLP • Skin Corrosion 1B - H314

2.2 Label Elements

CLP

DANGER



Hazard statements • H314 - Causes severe skin burns and eye damage.

Precautionary statements

Prevention • P260 - Do not breathe mists, vapours, and/or spray.
 P264 - Wash thoroughly after handling.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response • P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P310 - Immediately call a POISON CENTER or doctor/physician.
 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.

P321 - Specific treatment, see supplemental first aid information.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

- Storage/Disposal** • P405 - Store locked up.
 P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other Hazards

- CLP**
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

UN GHS

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2.1 Classification of the substance or mixture

- UN GHS**
- Corrosive to Metals 1
 - Skin Irritation 2
 - Serious Eye Damage 1

2.2 Label elements

UN GHS

DANGER



- Hazard statements** • May be corrosive to metals
 Causes skin irritation
 Causes serious eye damage

Precautionary statements

- Prevention** • Keep only in original container.
 Wash thoroughly after handling.
 Wear protective gloves/protective clothing/eye protection/face protection.
- Response** • Absorb spillage to prevent material damage.
 IF ON SKIN: Wash with plenty of soap and water.
 Take off contaminated clothing and wash before reuse.
 Specific treatment, see supplemental first aid information.
 If skin irritation occurs: Get medical advice/attention.
 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.

- Storage/Disposal** • Store in corrosive resistant/ container with a resistant inner liner.

2.3 Other hazards

- UN GHS**
- According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Corrosive to Metals 1
 - Skin Irritation 2
 - Serious Eye Damage 1

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • May be corrosive to metals
 Causes skin irritation
 Causes serious eye damage

Precautionary statements

- Prevention** • Keep only in original container.
 Wash thoroughly after handling.
 Wear protective gloves/protective clothing/eye protection/face protection.
- Response** • Absorb spillage to prevent material damage.
 If on skin: Wash with plenty of water .
 Take off contaminated clothing and wash before reuse.
 Specific treatment, see supplemental first aid information.
 If skin irritation occurs: Get medical advice/attention.
 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.

- Storage/Disposal** • Store in corrosive resistant/ container with a resistant inner liner.

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Sodium hydroxide	CAS:1310-73-2 EC Number:215-185-5 EU Index:011-002-00-6	2.88% TO 3.12%	NDA	UN GHS: Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1 EU CLP: Annex VI, Table 3.1: Skin Corr. 1A, H314 OSHA HCS 2012: Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1	NDA
Sodium chloride	CAS:7647-14-5 EC Number:231-598-3	0% TO 0.3%	Ingestion/Oral-Rat LD50 • 3000 mg/kg	UN GHS: Eye Irrit. 2; Skin Irrit. 3; Acute Tox. 5 (orl) EU CLP: Eye Irrit. 2, H319 OSHA HCS 2012: Eye Irrit. 2	NDA

See Section 16 for full text of H-statements.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If signs/symptoms continue, get medical attention.

Skin

- For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

- If swallowed, rinse mouth with water (only if the person is conscious) Do NOT induce vomiting. Drink large amounts of water or milk. Never give anything by mouth to an unconscious person. Do not use mouth-to-mouth method if victim ingested the substance. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

- LARGE FIRES: Dry chemical, CO₂, alcohol-resistant foam or water spray.
SMALL FIRES: Dry chemical, CO₂ or water spray.

Unsuitable Extinguishing Media

- No data available

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Containers may explode when heated. Sodium hydroxide solutions can react exothermically with acids and some organic compounds such as Aldehydes.

Hazardous Combustion Products

- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
SMALL FIRES: Move containers from fire area if you can do it without risk.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Do not get water inside container.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Dike to collect large liquid spills.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Handle and open container with care. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Do not ingest. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store at 70°F. Do not freeze. Keep away from incompatible materials.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Sodium hydroxide (1310-73-2)	TWAs	Not established	Not established	2 mg/m3 TWA
	Ceilings	2 mg/m3 Ceiling	2 mg/m3 Ceiling	Not established

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation 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.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Colorless liquid.
Color	Colorless	Odor	Data lacking
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Soluble 100 %
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat. Avoid boiling of product.

10.5 Incompatible materials

- Do not mix with strong acids, organics, aluminum, tin, zinc and alloys containing them.

10.6 Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Sodium hydroxide (2.88% TO 3.12%)	1310-73-2	Irritation: Eye-Rabbit • 1 % • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Severe irritation; Mutagen: Cytogenetic analysis • Unreported Route-Hamster • Lung (Somatic cell) • 10 mmol/L
Sodium chloride (0% TO 0.3%)	7647-14-5	Acute Toxicity: Ingestion/Oral-Rat LD50 • 3000 mg/kg; Irritation: Eye-Rabbit • 100 mg 24 Hour(s) • Moderate irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Multi-dose Toxicity: Ingestion/Oral-Rat TDLo • 201.6 g/kg 6 Week(s)-Intermittent; Vascular:BP elevation not characterized in autonomic section; Mutagen: Unscheduled DNA synthesis • Ingestion/Oral-Rat • 16800 mg/kg 4 Week(s)-Continuous; Reproductive: Ingestion/Oral-Rat TDLo • 56400 mg/kg (5D pre-21D post); Reproductive Effects:Maternal Effects:Postpartum; Reproductive Effects:Effects on Newborn:Biochemical and metabolic

GHS Properties	Classification
Respiratory sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
Serious eye damage/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Serious Eye Damage 1 UN GHS • Serious Eye Damage 1
Acute toxicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
Aspiration Hazard	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
Carcinogenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
Skin corrosion/Irritation	EU/CLP • Skin Corrosion 1B OSHA HCS 2012 • Skin Irritation 2 UN GHS • Skin Irritation 2
Skin sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
STOT-RE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
STOT-SE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking
Toxicity for Reproduction	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking

	UN GHS • Data lacking
Germ Cell Mutagenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking UN GHS • Data lacking

Potential Health Effects

Inhalation

- Acute (Immediate)** • May cause corrosive burns - irreversible damage.
- Chronic (Delayed)** • Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

- Acute (Immediate)** • Causes severe skin burns and eye damage.
- Chronic (Delayed)** • Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

- Acute (Immediate)** • Causes serious eye damage.
- Chronic (Delayed)** • Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

- Acute (Immediate)** • May cause irreversible damage to mucous membranes.
- Chronic (Delayed)** • Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.

Key to abbreviations

- LD = Lethal Dose
- TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

- Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or

international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1824	Sodium hydroxide solution	8	II	NDA
TDG	UN1824	SODIUM HYDROXIDE SOLUTION	8	II	NDA
IMO/IMDG	UN1824	SODIUM HYDROXIDE SOLUTION	8	II	NDA
IATA/ICAO	UN1824	Sodium hydroxide solution	8	II	NDA

14.6 Special precautions for user • None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Sodium chloride	7647-14-5	Yes	No	Yes	No	Yes
Sodium hydroxide	1310-73-2	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Sodium hydroxide	1310-73-2	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)
• Sodium chloride	7647-14-5	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Sodium hydroxide	1310-73-2	1 %
• Sodium chloride	7647-14-5	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Sodium hydroxide	1310-73-2	1000 lb final RQ; 454 kg final RQ
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Sodium hydroxide	1310-73-2	Not Listed
• Sodium chloride	7647-14-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H319 - Causes serious eye irritation

Revision Date

- 04/August/2015

Preparation Date

- 01/January/2014

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Key to abbreviations

NDA = No data available