Hydro Clean 650

Technical Dossier

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Shepard Bros. Inc. | 503 S. Cypress St. La Habra, CA 90631
800.645.3594 | www.shepardbros.com

SHEPARD BROS. INC.

HYDRO CLEAN 650

Chlorinated Liquid C.I.P. Cleaner

PRODUCT DESCRIPTION

HYDRO CLEAN 650 is a chlorinated liquid alkaline C.I.P. detergent formulated for circulation, soak, and spray cleaning of dairy and food processing equipment.

BENEFITS

- A blended, low-foaming chlorinated alkaline formulation.
- Built-in water conditioner with heavy duty chelates to prevent scale formation.
- Product formulation provides long lasting stability during extended high temperature cleaning.
- Liquid formulation feeds easily providing uniform solutions no mixing or dissolving required.
- Highly concentrated yet economical.
- A versatile one-product, multi-job cleaner.
- Works in all water conditions.
- Leaves stainless steel surfaces bright and shiny.

USE DIRECTIONS

Recommended: Cycle Hot Water Temperature Range: 120°F to 160°F.
HYDRO CLEAN 650 is commonly used in concentrations of 1.0 to 6.0 fluid oz. to one gallon of water
Consult your Shepard Bros., Inc. representative for specific use instructions and recommended dispensing equipment.

SAFE HANDLING

A Safety Data Sheet containing detailed information on the properties and safe handling of **HYDRO CLEAN 650** is available on request and should be carefully reviewed prior to using this product.

(Rev. 12/19)

Shepard Bros., Inc. 503 S. Cypress St. La Habra, CA 90631 (800) 645-3594

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: HC650

Product Name: Hydro Clean 650

Company Name: Shepard Bros., Inc.
503 S. Cypress St.
La Habra, CA 90631

Phone Number:
+1 (562)697-1366

Web site address: www.shepardbros.com

Emergency Contact: CHEMTREC

+1 (800)424-9300

Product Category: CIP Chlorinated Alkaline Cleaner

2. HAZARDS IDENTIFICATION

Acute Toxicity: Oral, Category 4
Skin Corrosion/Irritation, Category 1A
Aquatic Toxicity (Acute), Category 3
Aquatic Toxicity (Acute), Category 1

GHS Signal Word: Danger

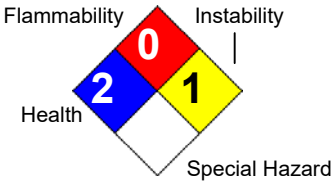
GHS Hazard Phrases: H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H400 - Very toxic to aquatic life.

GHS Precaution Phrases:
P271 - Use only outdoors or in a well-ventilated area.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P362+364 - Take off contaminated clothing and wash it before reuse.

GHS Response Phrases:
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P315 - Get immediate medical advice/attention.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P315 - Get immediate medical advice/attention.
P302+352 - IF ON SKIN: Wash with plenty of soap and water. P332+313 - If skin irritation occurs, get medical advice/attention.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P315 - Get immediate medical advice/attention.
P321 - Specific treatment see Section 4 reference to supplemental first aid instruction - if immediate measures are required.

GHS Storage and Disposal Phrases: P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard Rating System:



NFPA Hazard Ratings

Potential Health Effects (Acute and Chronic): Chronic: Effects may be delayed.

Inhalation: Harmful if inhaled. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Irritation may lead to chemical pneumonitis and pulmonary edema. Causes chemical burns to the respiratory tract.

Skin Contact: Causes severe skin irritation. Can cause severe injury (reddening and swelling). May cause deep, penetrating ulcers of the skin. Can cause chemical burn.

Eye Contact: Causes redness and pain. Causes severe eye burns. Causes serious eye damage. May cause irreversible eye injury. Contact may cause ulceration of the conjunctiva and cornea. Eye damage may be delayed.

Ingestion: Harmful if swallowed. Can burn mouth, throat and stomach. Causes gastrointestinal tract burns. May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause systemic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
1310-58-3	Potassium hydroxide	<20.0 %
7681-52-9	Sodium hypochlorite	<2.00 %
1310-73-2	Sodium hydroxide	<5.00 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. Get medical attention immediately.

In Case of Inhalation:

In Case of Skin Contact: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Gently wash with plenty of soap and water. Wash contaminated clothing separately before reuse. Get medical advice/attention.

In Case of Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do after 5 minutes and continue rinsing for an additional 15 minutes. Get immediate medical advice/attention.

In Case of Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Note to Physician: Treat symptomatically and supportively. Show this safety data sheet to the doctor in attendance.

5. FIRE FIGHTING MEASURES

Flash Pt: > 212 F (100 C) Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: NA

Suitable Extinguishing Media: Foam, CO2, water fog, sand/earth.

Unsuitable Extinguishing Media: Do not use dry chemical extinguisher containing ammonium compounds.

Fire Fighting Instructions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear with chlorine cartridges. Use water spray to keep fire-exposed containers cool. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes.

Flammable Properties and Hazards: Contact of this product with many "active" metals such as aluminum, copper and zinc, can cause formation of flammable hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: Use proper personal protective equipment as indicated in Section 8.

Environmental Precautions: Do not let product enter drains, sewers, watersheds or water systems.

Steps To Be Taken In Case Material Is Released Or Spilled: Use proper personal protective equipment as indicated in Section 8. Spills/Leaks: Provide ventilation. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Contain spill using an inert diking material. Transfer material into an approved container for possible recovery and reuse or for disposal. Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Keep away from heat, sparks and flame. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Precautions To Be Taken in Storing: Store in a cool, dry, well-ventilated area away from incompatible substances. Do not store in direct sunlight. Keep away from sources of ignition. Store in a tightly closed container. Protect containers against damage. Keep container closed when not in use.

Other Precautions: Handle in accordance with good industrial hygiene and safety practices. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
1310-58-3	Potassium hydroxide	No data.	TLV: 2mg/m3	No data.
7681-52-9	Sodium hypochlorite	No data.	TLV: 1.5mg/m3 as Cl2	No data.
1310-73-2	Sodium hydroxide	PEL: 2 mg/m3	CEIL: 2 mg/m3	No data.

Respiratory Equipment (Specify Type):	Avoid breathing vapors and mists. If ventilation is not sufficient to effectively prevent buildup of vapors or mists and the exposure limit is exceeded, use a NIOSH/MSHA approved respirator with chlorine cartridges when concentrations are unknown.
Eye Protection:	Wear chemical splash goggles and a full-face shield where there is potential for eye contact.
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure. Rubber or neoprene gloves.
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure. Chemical resistant boots. Chemical resistant apron.
Engineering Controls (Ventilation etc.):	Use adequate general or local exhaust ventilation to minimize exposure levels. Provide adequate ventilation where the air contacts open process equipment. Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Work/Hygienic/Maintenance Practices:	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Appearance: Transparent. Amber. Liquid. Odor: chlorine-like.
Melting Point:	< 32.0 F (0 C)
Boiling Point:	> 212 F (100 C)
Autoignition Pt:	NA
Flash Pt:	> 212 F (100 C) Method Used: Pensky-Marten Closed Cup
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.16
Vapor Pressure (vs. Air or mm Hg):	NA
Vapor Density (vs. Air = 1):	NA
Evaporation Rate:	No data.
Solubility in Water:	Complete
Percent Volatile:	NA

10. STABILITY AND REACTIVITY

Reactivity:	Contact of this product with many "active" metals such as aluminum, copper and zinc, can cause formation of flammable hydrogen gas.
Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	High temperatures, Incompatible materials, Excess heat.
Incompatibility - Materials To Avoid:	Strong acids, Contact of this product with many "active" metals such as aluminum, copper and zinc, can cause formation of flammable hydrogen gas.
Hazardous Decomposition Or Byproducts:	High temperatures and flames may produce: Toxic chlorine, Carbon monoxide, hydrogen chloride. Oxides of potassium, oxides of phosphorus, sodium oxide.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No data available.
Mutagenicity: No information available.
Neurotoxicity: No data available.
Other Studies: Ingredient CAS# 1310-58-3:
Acute toxicity, LD50, Oral, Rat, 273 mg/kg

Other Studies: Ingredient CAS# 7681-52-9:
Acute toxicity, LD50, Oral, Mouse, 5800 mg/kg

Irritation or Corrosion:

Other Studies: Ingredient CAS# 1310-58-3:
Standard Draize Test, Skin, Species:Rabbit, 50.0 mg, 24H

Other Studies: Ingredient CAS# 7681-52-9:
Standard Draize Test, Eyes, Species:Rabbit, 1.310 mg, Mild

Other Studies: Ingredient CAS# 1310-73-2:
Standard Draize Test, Eyes, Species: Rabbit, 400.0 ug

Carcinogenicity/Other Information:

CAS# 1310-58-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7681-52-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 1310-73-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Carcinogenicity:

NTP? No IARC Monographs? No OSHA Regulated? No

12. ECOLOGICAL INFORMATION

General Ecological Information:

Environmental: No information found.
Physical: No information found.

Results of PBT and vPvB assessment:

Other Studies: Ingredient CAS# 1310-58-3:
LC50, Western Mosquitofish (Gambina affinis), adult(s), 80000 ug/L, 96H, Mortality

Other Studies: Ingredient CAS# 7681-52-9:
LC50, Rainbow trout (Oncorhynchus mykiss), 59.00 ug/L, 96H, Mortality
LC50, Water Flea (Daphnia magna), 32.00 ug/L, 48H, Mortality
LC50, Bleak (Alburnus alburnus), 30000 - 35000 ug/L, 96H, Mortality

Other Studies: Ingredient CAS# 1310-73-2:
LC50, Western Mosquitofish (Gambina affinis), adult(s), 125000 ug/L, 48H, Mortality
LC50, Goldfish (Carassius auratus), adult(s), 160000 ug/L, 24H, Mortality
Effective concentration to 0% of test organisms, Water Flea (Daphnia magna), 156000 ug/L, 48H, Intoxication

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. Observe all federal, state, and local environmental regulations.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, N.O.S. (Potassium Hydroxide, Sodium Hypochlorite)

DOT Hazard Class: 8 CORROSIVE

UN/NA Number: UN3266 **Packing Group:** II

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
1310-58-3	Potassium hydroxide	No	Yes 1000 LB	No
7681-52-9	Sodium hypochlorite	No	Yes 100 LB	No
1310-73-2	Sodium hydroxide	No	Yes 1000 LB	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
1310-58-3	Potassium hydroxide	TSCA: Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8
7681-52-9	Sodium hypochlorite	TSCA: Inventory; CA PROP.65: No; CA TAC, Title 8: Title 8
1310-73-2	Sodium hydroxide	TSCA: Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8

Regulatory Information: PROPOSITION 65 (Chemicals known to the state of California to cause cancer or reproductive toxicity): Trace (CAS #15541-45-4) bromate

16. OTHER INFORMATION

Revision Date: 12/18/2019

Additional Information About This Product: No data available.

Company Policy or Disclaimer: Information presented herein is believed to be accurate and reliable to the best of our knowledge. However, we make no warranty or merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process. Users should make their own investigations to determine the suitability of the information for their particular purposes.

HYDRO CLEAN 650

(formerly Hydro Clean 400)

CHLORINATED LIQUID C.I.P.

SAME TRUSTED FORMULA

DANGER

Harmful if swallowed.
Causes severe skin burns and eye damage.
Harmful to aquatic life.

Precautionary Statements: Do not breathe mist/vapors/spray. Wear protective gloves, protective clothing, eye protection, and face protection. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

First Aid:
IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or a doctor.
SPECIFIC TREATMENT: See Section 4 of the SDS to reference supplemental first aid instruction if immediate measures are required.

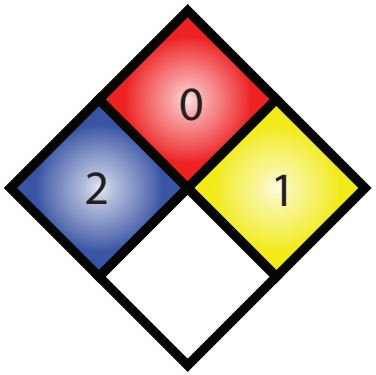
Storage/Disposal: Dispose of contents and containers in accordance with local, regional, national, and international regulations.

Supplemental Information: This product may be fatal if swallowed in large amounts.Take proper precautions, especially when using this product in an enclosed or semi-enclosed area. At elevated temperatures, this product may react with the reducing sugars in foods and beverages to produce toxic carbon monoxide. When entering a tank, even an empty one, follow all appropriate confined entry procedures (ANSI Z117.1).
KEEP OUT OF REACH OF CHILDREN.

SHEPARD BROS., INC.
503 S. CYPRESS ST.
La Habra, CA 90631 • (562) 697-1366

CONTAINS: POTASSIUM HYDROXIDE, SODIUM HYPOCHLORITE. DO NOT MIX WITH ACID DETERGENTS - WILL CAUSE HAZARDOUS VAPORS.

Contact your Shepard Bros., Inc. representative for more specific use instructions and recommended dispensing equipment.



Read safety data sheets for more detailed information.

PROPER SHIPPING NAME:

UN3266,

CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (POTASSIUM HYDROXIDE, SODIUM HYPOCHLORITE), 8, PGII

PRODUCT ID:

BATCH NO.:

NET CONTENTS:

SHEPARD Bros. Inc.
Cleaners / Sanitizers / Water Treatment
503 S. Cypress St., La Habra, CA 90631
phone: 562/697-1366
fax: 562/697-5786

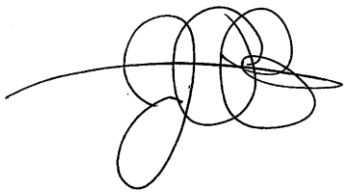
January 1, 2020

Based on current U.S. Food and Drug Administration Guidelines, this Letter of Guarantee certifies that the Shepard Bros., Inc. product, **Hydro Clean 650,** is safe and suitable as a general cleaning agent on all surfaces or for use with steam or mechanical cleaning devices in all departments of establishments processing food for human or animal consumption.

When used according to the product label directions and in accordance with Good Manufacturing Practice this product will have no deleterious effects on the foods being processed.

This product must be used, handled and stored in a manner that will not adulterate food products. Before using this compound, food products and packaging materials must be removed from the room or carefully protected. After using this compound, surfaces must be thoroughly rinsed with potable water. This product must always be used according to applicable label directions.

Sincerely,



Jose Arias
Director of Compliance & Regulatory Affairs
Shepard Bros., Inc.

SHEPARD BROS.

Shepard Bros., Inc.
503 S. Cypress St.
La Habra, CA 90631
(562) 697-1366

Hydro Clean 650

Chlorinated Cleaner Test Kit

SBRTK5000-Z

1. Fill test tube (0701) with syringe to 5 or 10 mL line with sample water.
2. Add 5 drops of Sodium Thiosulfate 0.0365N (ST2970), and mix.
3. Add 3 drops of Phenolphtalein indicator (PH1605), mix (solution will turn pink)
4. Add Sulfuric Acid 1.0 N (SA1625) drop-wise while swirling until the sample color turns clear. Count the number of drops. Hold bottle vertically.
5. Calculations:

   For 10 mL sample: 1 drop = 160 ppm alkalinity as sodium hydroxide (by weight)
   number of drops x 160 = to obtain ppm active alkalinity as Sodium Hydroxide (by weight)
   number of drops x 224.4 = to obtain ppm active alkalinity as Potassium Hydroxide (by weight)
   number of drops x 0.125 = to obtain % product in solution (by volume)
   number of drops x 0.167 = to obtain fl oz product/gallon
   number of drops x 1250 to obtain ppm product in solution (by vol)
   Example: 1.0 fl-oz/gal = 6 drops
   2.0 fl-oz/ gal = 12 drops
   1% product in solution by volume = 8 drops
   2% product in solution by volume = 16 drops

   For 5 mL sample: 1 drop = 320 ppm alkalinity as sodium hydroxide (by weight)
   number of drops x 320 = to obtain ppm active alkalinity as Sodium Hydroxide (by weight)
   number of drops x 448.8 = to obtain ppm active alkalinity as Potassium Hydroxide (by weight)
   number of drops x 0.250 = to obtain % product in solution (by volume)
   number of drops x 0.334 = to obtain fl oz product/gallon
   number of drops x 2500 to obtain ppm product in solution (by vol)
   Example: 1.0 fl-oz/gal = 3 drops
   2.0 fl-oz/ gal = 6 drops
   1% product in solution by volume = 4 drops
   2% product in solution by volume = 8 drops

NOTE: For accuracy and consistency hold the dropper bottle in a vertical position during the titration.

Rev 12/19

Shepard Bros., Inc.
503 S. Cypress St.
La Habra, CA 90631
(562) 697-1366

HYDRO CLEAN 650

Chlorinated Cleaner Test Kit

SBRTK5050-Z

1. Fill test tube (0701) to 10mL line with sample water.
2. Add 3 drops of Phenolphtalein indicator (PH1605), mix (solution will turn pink).
3. If sample doesn't turn pink, add 5 drops of Sodium Thiosulfate (ST2970), and additional 3 drops of Phenolpthalein indicator, mix.
4. Add Sulfuric Acid 0.5N (SA7590) drop-wise while swirling, until the sample color turns clear. Count the number of drops. Hold bottle vertically.
5. **RESULTS:**
   number of drops x 80 = to obtain ppm active alkalinity as Sodium Hydroxide (by weight)
   number of drops x 0.059 = to obtain % product in solution (by volume)
   number of drops x 0.077 = to obtain fl-oz product/gallon
   number of drops x 590 to obtain ppm product in solution (by volume)
   Example: 1.0 fl-oz/gal = 13 drops
   1% product in solution by volume = 17 drops

NOTE: For accuracy and consistency hold the dropper bottle in a vertical position during the titration.

Rev 03/20