Section 1. Product and Company Identification

Product Identification:	QCS-2
SDS Number:	QCS-2
Recommended Use:	For Laboratory Use.
Company Identification:	High-Purity Standards P.O. Box 41727 Charleston, SC 29423 Telephone: (843) 767-7900 FAX: (843) 767-7906

In case of emergency call INFOTRAC: 800-535-5053

Section 2. Hazard Identification

Classification:
Skin Corrosion/Irritation, Category 1
Serious Eye Damage/ Eye Irritation, Category 1
Labeling:

Symbol:
Signal Word: Danger.
Hazard Statement: Causes severe skin burns and eye damage.
Precautionary Statement: Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling.

Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Antimony	7440-36-0/231-146-5	0.01
Sodium Chloride (NaCl)	7647-14-5/231-598-3	0.01 (as Na)
Tin	7440-31-5/231-141-8	0.01
Yttrium Oxide (Y_2O_3)	1314-36-9/215-233-5	0.05 (as Y)
Hydrochloric Acid	7647-01-0/231-595-7	5
Water, deionized	7732-18-5/231-791-2	Balance

Section 4. First Aid Measures

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Call a physician if irritation develops. Harmful if absorbed through the skin.

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 physician. May cause nausea, vomiting, and diarrhea.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membrane and upper respiratory tract.

Target Organs: Eyes, skin.

Section 5. Fire Fighting Measures

Fire & Explosion hazards: Hydrochloric acid is a negligible fire hazard when exposed to heat and/or flames. Hydrochloric acid may react with the evolution of heat on contact with water; the acid may release toxic, corrosive, flammable, or explosive gases.

Extinguishing Media: Use regular dry chemical, carbon dioxide, water, or regular foam.

Specific Methods: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Section 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Do not allow to enter drainage systems or water ways. Dike area and dilute spill with water and neutralize with soda ash, limestone, etc. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Always dispose of in accordance with local regulations.

Section 7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Keep out of direct sunlight and away from heat, water, and incompatible materials. When diluting, the acid should always be added slowly to water and in small amounts. Refer to Section 8 for personal handling instructions.

Section 8. Exposure Controls and Personal Protection

Engineering Controls: Provide general and local (e.g., fume hood) ventilation systems to maintain airborne concentrations below the TLV. Ensure the availability of eyewash stations and safety showers.

Respiratory Protection: Provide approved respiratory apparatus for non-routine or emergency use. Use an approved vapor respirator when the vapor or mist concentrations are high. If necessary, refer to the NIOSH document Guide to the Selection and Use of Particulate Respirators Certified under 42 CFR 84 for selection and use of respirators certified by NIOSH.

Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron.

Exposure Limits:

Component	ACGIH TLV	OSHA PEL
Antimony	0.5 mg/m^3	0.5 mg/m^3
Sodium Chloride	Not Available	Not Available
Tin	2 mg/m^3	2 mg/m^3
Yttrium Oxide	1 mg/m^3	Not Available
Hydrochloric Acid	C 5ppm C 7 mg/m^3	C 5ppm C 7 mg/m^3
Water, deionized	Not Available	Not Available

Section 9. Physical and Chemical Properties

Physical State: Liquid
Color: Clear, colorless
Odor: Odorless to a faint pungent odor
Odor threshold: None
pH: <2
Melting point: N/A
Freezing Point: N/A
Boiling Point: Approximately 100°C
Flash point: N/A
Evaporation rate: N/A
Flammability: N/A
Explosion limits: N/A
Vapor Pressure (mm): N/A
Vapor Density (air+1): N/A
Relative density: (H_2O = 1): Approximately 1.0
Solubility in H_2O: Complete
Auto ignition temperature: N/A
Decomposition temperature: N/A
Molecular Weight: N/A

Section 10. Stability and Reactivity

Stability Indicator: YES
Conditions to Avoid: Metals, hydroxides, carbonates, cyanides.
Incompatibles: Strong oxidizing agents.
Hazardous Decomposition Products: When heated to decomposition, emits toxic hydrochloric acid fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.
Hazardous Polymerization: Does not polymerize.

Section 11. Toxicological Information

May affect skin, mucous membranes and eyes. Swallowing may lead to a negative effect on mouth and throat and to the risk of perforation or the corrosion of esophagus and stomach.

RTECS#

HCl - MW4025000
NaCl- VZ4725000
Y_2O_3- ZG3850000
Sb- CC4025000
Sn- XP7320000

Toxicity Data:

LD_{50} Oral, Rabbit: (Hydrochloric Acid) 900 mg/kg; LC_{LO} Inhalation, Human: (Hydrochloric Acid) 3000 ppm/5 minutes
LD_{50} Oral, Mouse: (Sodium Chloride) 4 g/kg
LD_{50} Oral, Rat: (Antimony) 7g/kg
TD_{LO} Implant, Rat: (Tin) 395 gm/kg
LD_{LO} Oral, Mouse: (Yttrium Oxide) >6 g/kg

Section 12. Ecological Information

Ecotoxicological information: Do not allow material to reach ground water, water bodies, or sewage system. Hydrochloric acid has a slight acute and chronic toxicity to aquatic life.

Section 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Section 14. Transport Information

D.O.T. Classification: Hazardous by IATA and 49CFR regulations (based on concentration of acid).
D.O.T. Shipping Name: Corrosive liquid, Acidic, Inorganic, n.o.s. (Hydrochloric Acid Solution)
D.O.T. Hazard Class: 8
U.N./N.A. Number: 3264
Packing Group: II
D.O.T. Label: Corrosive (8)

Section 15. Regulations (Not meant to be all inclusive-selected regulation listed)

TSCA Status: Components of this solution are listed on the TSCA Inventory.
RCRA Status: No
SARA: Section 302 (Extremely Hazardous Substances) No
Section 313 No
Risk Phrases: R20/21/22 Harmful by inhalation, skin contact, or if swallowed.
Safety Phrases: S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
WHMIS Information (Canada): E: Corrosive

Section 16. Other Information

HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel only. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The SDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the SDS. Certified values for this material are given only on the Certificate of Analysis.

Theodore C. Rains, Ph.D.