Section 1 – Chemical Product and Company Identification

1.1. Product identifier:
Potassium Bromate-Bromide (0.1N) in Hydrochloric Acid (0.5% v/v).

1.2. Relevant identified uses of the substance or mixture and uses advised against:
To be used as a sample preservative for analytical testing.

1.3. Details of the supplier of the safety data sheet:

ALS Laboratories (UK) Limited
Torrington Avenue,
Coventry, CV4 9GU

1.4. Emergency telephone number
T: +44 (0)24 7642 1213
F: +44 (0)24 7685 6575

Section 2 – Hazards Identification

2.1. Classification of the substance or mixture
Skin corrosion (Category 1B), H314
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2. Label elements

Pictograms

Signal word: Warning.

Hazard statement(s)
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statement(s)
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements: none

Reduced labelling for packages where contents do not exceed 125ml is not applicable.

2.3. Other hazards - none

Section 3 – Composition, Information on Ingredients

3.2. Mixtures

Component	Hazards	Concentration
Potassium Bromate-Bromide solution (0.1N)	H350.	4.25%
Hydrochloric acid (32-38%)	H314, H335.	0.5%
Water	None.	95.25%

Section 4 – First Aid Measures

4.1. Description of first aid measures
Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

4.2. Most important symptoms and effects, both acute and delayed:
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

Section 5 – Fire Fighting Measures

5.1. Extinguishing media: Substance is non-combustible; use agent most appropriate to extinguish surrounding fire.

5.2. Special hazards arising from the substance or mixture: Not flammable but reacts with most metals to form flammable hydrogen gas.

5.3. Advice for firefighters: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Use water spray to keep

fire-exposed containers cool. Vapours may be heavier than air. They can spread along the ground and collect in low or confined areas.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures: Protect skin and eyes from spillages.

6.2. Environmental precautions: Prevent spills from entering waterways and sewers.

6.3. Methods and materials for cleaning up: Use a suitable absorbent. Use neutralizing agents if available. Collect into a container, close lid. Dispose as hazardous waste.

6.4. Reference to other sections. See suitable PPE in section 8.

Section 7 – Handling and Storage

7.1 Precautions for safe handling
Avoid inhalation of vapour or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Keep away from strong bases and metals. Use caution when opening. Do not use with metal spatula or other metal items.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Do not store in metal containers. Store away from alkalis. Separate from oxidizing materials.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8 – Exposure Controls, Personal Protection

8.1. Control parameters: Under EH40 (UK) STEL 5ppm, TWA 10ppm for HCl.

8.2. Exposure controls: Eyes: Wear chemical splash goggles and/or face shield. Skin: Wear appropriate acid resistant gloves, apron, and/or clothing. Clothing: Wear appropriate clothing to prevent skin exposure.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Appearance: clear, colourless to pale yellow
Odour: strong, pungent
pH: 0.01
Vapour Pressure: 84 mm Hg @ 20 deg C
Vapour Density: 1.27 (air=1)
Evaporation Rate:> 1.00 (N-butyl acetate)
Viscosity: Not available.
Boiling Point: 83 deg C @ 760 mmHg

Freezing/Melting Point: -66 deg C
Solubility: Soluble.
Specific Gravity/Density: 1.19 (38%)
Molecular Formula: HCl.H2O
Molecular Weight: 36.46

9.2. Other information

Section 10 – Stability and Reactivity

10.1. Reactivity
No data available.

10.2. Chemical stability
Stable under normal temperatures and pressures.

10.3. Possibility of hazardous reactions
Hazardous Polymerization: Has not been reported.

10.4. Conditions to avoid
Excess Heat.

10.5. Incompatible materials
Metals, strong oxidizing agents, strong reducing agents, bases, acetic anhydride, alcohols, amines, sulphuric acid, vinyl acetate, epoxides (e.g. butyl glycidyl ether), chlorosulfonic acid, carbides, beta-propiolactone, ethyleneimine, propylene oxide, lithium silicides, 2-aminoethanol, 1,1-difluoroethylene, magnesium boride, mercuric sulphate, aldehydes, cyanides, sulphides, phosphides.

10.6. Hazardous decomposition products
Hydrogen chloride, chlorine, hydrogen gas.

Section 11 – Toxicological Information

11.1. Information on toxicological effects:
Acute toxicity for hydrochloric acid.
Oral, rabbit: LD50 = 900 mg/kg
Inhalation, rat: LC50 = 3124 ppm/1H

Teratogenicity: Female rats were exposed to 450 mg/m3 of HCl for 1 hour either prior to mating or on day 9 of pregnancy. Developmental effects were observed in the offspring. However, this exposure caused toxic effects, including mortality, in the mothers.

Potassium Bromate-Bromide solution (1N) is a suspected carcinogen.

Section 12 – Ecological Information

12.1. Toxicity: Fish: Bluegill/Sunfish: 3.6 mg/L; 48Hr; Lethal (unspecified) Fish: Bluegill/Sunfish: LC50; 96 Hr; pH 3.0-3.5 No data available.

12.2. Persistence and degradability: No data available.

12.3. Bioaccumulative potential: No data available.

12.4. Mobility in soil: Will exhibit extensive evaporation from soil surfaces. Upon transport through the soil, hydrochloric acid will dissolve some of the soil materials (especially those with carbonate bases) and the acid will neutralize to some degree.

12.5. Results of PBT and vPvB assessment: No data available.

12.6. Other adverse effects: No data available.

Section 13 – Disposal Considerations

13.1. Waste treatment methods
Reuse or reprocess if possible. Do not dump into any sewers, on the ground, or into any body of water. Any disposal practice must be in compliance with regulations (contact environmental agency for specific rules). Waste characterisation and compliance with applicable laws are the responsibility of the waste generator.

Section 14 – Transport Information

14.1. UN number: 1789.

14.2. UN proper shipping name: Hydrochloric acid, solution.

14.3. Transport hazard class(es): 8.

14.4. Packing group: II.

14.5. Environmental hazards: No.

14.6. Special precautions for user: As per section 7.

Section 15 – Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:
CDG (Carriage of Dangerous Goods) Regulations
CLP (Chemicals, Labelling and Packaging) Regulations.
CoSHH (Control of Substances Hazardous to Health) regulations
Hazardous Waste Regulations
PPE Regulations
Workplace Exposure Limits EH40

15.2. Chemical safety assessment: For this product a chemical safety assessment was not carried out.

Section 16 – Other Information

16.1 Other information
Written by Paul Talbot.

16.2. Date of the latest revision of the SDS
See document header.