SAFETY DATA SHEET

PRODUCT NAME: Battery Acid (1260)

Issue Date: May 23

IDENTIFICATION

Product Name: Battery Acid 1260 (Sulphuric Acid 35% w/w)
Other Names: Dihydrogen Sulphate, Dipping Acid, Sulphuric Acid
Product Code: CBA12601, CBA126020, MB-BA
Uses: Fertilisers, explosives, battery acid, electroplating, dyes, drugs, detergents, adhesives, plastics, paints, tanning, food processing, water treatment
Supplier: HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton
Phone: 079744971 Web: www.hamchem.co.nz Email: info@hamchem.nz

- **In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.**
- **In case of poisoning phone National Poisons Centre – 0800 764 766**

HAZARD IDENTIFICATION

GHS Classifications
Corrosive to Metals – Category 1
Acute Inhalation Toxicity – Category 4
Skin Corrosion – Category 1B
Serious Eye Damage – Category 1
Specific Target Organ Toxicity (Repeated Exposure) – Category 1
Specific Target Organ Toxicity (Single Exposure) – Category 3 (respiratory tract irritation)

Signal Word: Danger

"Do not use in applications where inhalable mists are generated – for use as Battery Acid only"

Hazard Statements
H290 – May be corrosive to metals
H332 – Harmful if inhaled
H314 – Causes severe skin burns and eye damage
H318 – Causes serious eye damage
H335 – May cause respiratory irritation
H372 – Causes damage to organs through prolonged or repeated exposure

Prevention
P234 – Keep only in original packaging
P260 – Do not breathe dust or mists
P271 – Use only outdoors or in a well-ventilated area
P264 – Wash exposed skin thoroughly after handling
P280 – Wear protective gloves/clothing and eye/face protection
P270 – Do not eat, drink or smoke while using this product

Response
P390 – Absorb spillage to prevent material damage.
P304 + P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 – Call a POISON CENTRE or Doctor if you feel unwell
P301 + P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 – IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
P363 – Wash contaminated clothing before reuse
P31 – Immediately call a POISON CENTRE or Doctor
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P310 – IMMEDIATELY call a Poison Centre or Doctor/Physician.
P314 – Get medical advice/attention if you feel unwell

Storage
P406 – Store in a corrosion resistant container with a resistant inner liner
P405 – Store locked up
P403 + P233 – Store in a well-ventilated place. Keep container tightly closed

Disposal
P501 – Dispose of contents/container to an approved waste facility in accordance with local/regional/national regulations.

COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion (%)
Sulphuric Acid	7664-93-9	35%
Water	7732-18-5	Balance

FIRST AID MEASURES

If swallowed: Do NOT induce vomiting. Seek medical attention immediately. For advice, contact the National Poisons Centre on 0800 764 766 (NZ) or a Doctor (at once).

If in eyes: Hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the National Poisons Centre or a Doctor, for at least 15 minutes.

If on skin: Remove contaminated clothing and flush skin and hair with running water. Continue flushing until advised to stop by the National Poisons Centre or a Doctor.

If inhaled: Remove from contaminated area. To protect rescuer, use a full-face type B (inorganic and acid gas) respirator or an air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

Notes to physician: Treat symptomatically based on judgment of Doctor and individual reactions of patient. Can cause corneal burns.

Medical Conditions Aggravated by Exposure: No information available on medical conditions aggravated by exposure to this product.

FIRE FIGHTING MEASURES

General Measures: If safe to do so, remove containers from the path of the fire. Evacuate area and contact emergency services.

Flammability Conditions: Product is a non-flammable liquid.

Extinguishing Media: For large fires, flood area with large quantities of water while knocking down vapours with water fog. If there is insufficient water supply, knock down vapours only. For small fires, use Carbon Dioxide, dry chemical, dry sand or flooding quantities of water. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. If tanks or containers are involved in the fire, cool them with copious quantities of water until well after the fire is out. Do not allow water to get inside tanks or containers. Withdraw immediately from the fire area if the tanks discolour or there is a rising sound from the safety vents. Stay away from tank ends. Use an extinguishing agent suitable for the surrounding fire including water spray, foam, carbon dioxide or dry chemical powder.

Fire and Explosion Hazard: The product is non-combustible but will support combustion of other materials and may emit toxic fumes including those of sulphuric acid fumes and Sulphur dioxide. The packaging material may burn to emit noxious fumes. Reacts with most common metals to liberate hydrogen which can form explosive mixtures with air.

Hazardous Products of Combustion: Sulphur Oxides.

Special Firefighting Instructions: Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow firefighting water to reach waterways, drains or sewers. Store firefighting water for treatment.

Personal Protective Equipment: Firefighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Please note: structural firefighters uniform will provide limited protection.

Flash Point: No data available

Lower Explosion Limit: No data available

Upper Explosion Limit: No data available

Auto Ignition Temperature: No data available

ACCIDENTAL RELEASE MEASURES

General Response Procedure: Avoid accidents, clean up immediately. May be slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition.

Clean Up Procedures: Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. When saturated, collect materials, transfer to suitable labelled dry chemical-waste containers and dispose of promptly as hazardous waste. In case of large spill, solutions can be recovered or carefully diluted with water and cautiously neutralized with alkalis such as lime or soda ash, adjusting pH to 6-10. Neutralise the final traces and flush area with water.

Containment: Stop leak if safe to do so.

Decontamination: To avoid violent reactions, always add acid to water and never water to acid. When cleaning up residual acid after a spill, use copious (flooding) quantities of the water from the outset, to provide rapid dilution.

Environmental Precautionary Measures: Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.

Evacuation Criteria: Do not enter area, walk through spilled material or touch damaged containers. Restrict access downwind and for at least 25 metres in other directions, unless appropriate PPE is worn. Ventilate area where possible.

Personal Precautionary Measures: Personnel involved in the cleanup should wear full protective clothing as listed in this SDS.

HANDLING & STORAGE

Procedure for handling: Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Remove contaminated clothing promptly. Keep contaminated clothing in closed containers. Discard or launder before re-wearing. Inform laundry personnel of contaminants hazards. Do not eat, drink or smoke in work areas. Avoid generating mist or spray. When diluting solution, add material to water in small amounts. Label containers.

Empty containers may contain residues which are hazardous. Use smallest possible amounts in designated areas with adequate ventilation. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure.

Suitable container: Container type/packing must comply with all applicable local legislation. Store in original packaging as approved by manufacturer.

Storage requirements: Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Keep containers upright to prevent leakage and protect against physical damage. Inspect regularly for deficiencies such as damage or leaks. Store away from incompatible materials as listed in this SDS. Materials that react violently with acids should not be stored in the same area. Storage tanks should be above ground and surrounded with dykes capable of holding entire contents. Limit quantity of material in storage. Restrict access to storage area. Post warning signs when appropriate. Keep storage area separate from populated work areas.

EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure standards:
Occupational Exposure Limits:
8hr TWA = 0.1mg/m^3, 15 min STEL = 3mg/m^3

Engineering controls: A system of local and/or general exhaust is recommended to keep employee exposure as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Use local exhaust ventilation, and process enclosure if necessary, to control airborne spray/mists. Supply sufficient air to make up for air removed by exhaust systems.

Personal protective equipment: RESPIRATOR – Where risk assessment shows air-purifying respirators are appropriate use a full facepiece gas mask/chemical cartridge respirators as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate standards. EYES – tightly fitting safety goggles. Face shield (8 inch minimum). Use equipment for eye protection tested and approved under appropriate government standards. HANDS – handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. CLOTHING – Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Work Hygienic Practices: Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drink and smoking in contaminated areas.

PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Clear, water white, oily mobile liquid.
Odour:	N/A
Specific Gravity:	1.260
Solubility in water:	Miscible with water in all proportions.
Flash point:	N/A
Boiling point:	290ºC
Melting point:	3ºC
pH:	about 1.0

STABILITY & REACTIVITY

Stability: Potential for exothermic hazard. Can react violently, releasing heat, when mixed with water and strong alkalis (bases). May evolve flammable, and when confined, explosive hydrogen gas in contact with some metals.

Hazardous decomposition products: This product and its solutions will not burn or support combustion. However, reaction with a number of commonly encountered oxidisable materials can generate sufficient heat to ignite nearby combustible materials. Reacts with most metals generating flammable/explosive hydrogen gas.

Avoid addition of water to product – generates considerable heat and splattering. Will emit toxic fumes in fire, including sulphuric acid fumes and Sulphur dioxide.

Hazardous polymerization: Will not occur.

Incompatibles: Bases, halides, organic materials, carbides, fulminates, nitrates, picrates, cyanides, chlorates, alkali halides, zinc salts, permanganates, e.g. potassium permanganate, hydrogen peroxide, azides, perchlorates, nitromethane, phosphorous. Reacts violently with: cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, powdered metals.

Conditions to avoid: Avoid heat, sparks, open flames and other ignition sources.

TOXICOLOGICAL INFORMATION

Toxicity data:

Oral (rat) LD_{50}: 2140mg/kg
Inhalation (rat) LC_{50}: 510mg/m^3/2h

Carcinogenicity: The International Agency for Research and Cancer (IARC) has classified “strong inorganic acid mists containing sulphuric acid” as a known human carcinogen, (IARC category 1). This classification applies on the mists containing sulphuric acid and not to sulphuric acid or sulphuric acid solutions.

Swallowed: Burning of the mouth, throat and oesophagus, vomiting, diarrhea, collapse and possible death may result. Highly corrosive. Ingestion of large quantities may result in ulceration, unconsciousness, convulsions and death.

Eye: Extremely corrosive. Can penetrate deeply causing irritation or severe burns depending on the concentration and duration of exposure. In severe cases, ulceration and permanent damage may occur.

Inhaled: Effects of inhaling vapour and mists have not been clearly established. Most references indicate that irritation of the nose, throat and lungs would occur due to the corrosive nature of the product. Highly corrosive – severe irritant. Over exposure may result in mucous membrane irritation of the respiratory tract, coughing, bronchitis, ulceration, bloody nose, lung tissue damage, chemical pneumonitis, pulmonary oedema and death.

Skin: Extremely corrosive. Capable of causing severe burns with deep laceration. Can penetrate to deeper layers of skin. Corrosion will continue until removed. Severity depends on concentration and duration of exposure. Repeated or prolonged contact with dilute solutions may lead to irritant contact dermatitis.

ECOLOGICAL INFORMATION

Ecotoxicity (Aquatic & Terrestrial):
LC_{50} Flounder: 100 to 330mg/L/48hr
LC_{50} Shrimp: 80 to 90mg/L/48hr
LC_{50} Prawn: 42.5ppm/48hr
This material is toxic to aquatic life.

Environmental Fate: When released into soil, this material may leach into groundwater.
When released into the air, this material may be removed from the atmosphere to a moderate extent by both wet and dry deposition. When very dilute in waterways and soil, Sulphuric Acid provides a source of sulphur necessary for plant growth, thus can be termed biodegradable.

DISPOSAL CONSIDERATIONS

General Information: Dispose of in accordance with all local, regional and national regulations. All empty packaging should be disposed of in accordance with all local, regional and national regulations or recycled/reconditioned at an approved facility.

Special Precautions for Landfill: Contact a specialist disposal company or the local waste regulator for advice. Wearing the protective equipment as detailed earlier in this SDS – neutralize to pH 6-8 by SLOW addition to a saturated sodium bicarbonate solution or similar basic solution. Dilute with excess water and flush to drain. Waste disposal should only be undertaken in a well-ventilated area.

TRANSPORT INFORMATION

UN Number:	2796
Proper Shipping name:	Sulphuric Acid with not more than 51% acid
Dangerous Goods Class:	Class 8 - Corrosive
Packing group:	II
Hazchem Code:	2R

REGULATORY INFORMATION

HSNO Classifications: 8.1A, 6.1D, 8.2B, 8.3A, 6.9B, 6.9A
EPA Approval # HSR001572 – Sulphuric Acid, >10% aqueous solution

OTHER INFORMATION

Key to abbreviations:

LC50	Is the concentration which kills half of the test animals under controlled conditions. This value applies to vapours, dusts, mists and gases.
LD50	Is the lowest dose which kills half of the test animals by ingestion.

End of SDS.

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