



PREPARED BY: PRINT NAME:	D. Tetchner	DOCUMENT: MATERIAL SAFETY DATA SHEET
SIGN:		NUMBER: MSDS 01
APPROVED: PRINT NAME:	J. Ward	
SIGN:		ISSUE: 1 DATE: 02.02.2010 REVISION: 0 DATE: 09.05.2016

MATERIAL SAFETY DATA SHEET – SULPHURIC ACID 10 – 51%

1. COMPANY INFORMATION & PRODUCT IDENTIFICATION

FIRST NATIONAL BATTERY A Division of Metindustrial (Pty) Ltd

P.O. Box 5015, Benoni South, 1502
South Africa

Tel: International: +27 11 741-3600
Fax: International: +27 11 421-1625

Emergency telephone no/ +27 43 706 8200

POISON CENTRE: +27 82 446 8946 / +27 21 931 6129

JHB METROPOLITAN EMERGENCY SERVICE: + 2711375 5911

www.battery.co.za

CONTACT: Justin Ward

SULPHURIC ACID, 10 – 15%

PRODUCTION IDENTIFICATION


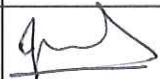
TRADE NAME	:	Battery Acid
CHEMECAL FAMILY	:	Mineral Acid, oxidising
CHEMICAL NAME	:	Sulphuric Acid
SYNONYMS	:	Battery electrolyte
	:	Oil of Vitriol
	:	Babcock oil
CHEMICAL ABSTRACT NO.	:	7664-93-9
NIOSH NO.	:	WS 5600000
HAZCHEM CODE	:	2P
UN NO	:	2796

2. HAZARD IDENTIFICATION

MAIN HAZARD	:	Poison, Corrosive
FLAMMABILITY	:	Non flammable
CHEMICAL HAZARD	:	Corrosive
BIOLOGICAL HAZARD	:	Toxic to aquatic life
REPRODUCTION HAZARD	:	Unknown

HEALTH EFFECTS

EYES	:	Corrosive. Contact can cause blurred vision, Redness, pain and severe tissue burns. Can Cause blindness.
SKIN	:	Corrosive. Symptoms of redness, pain and Severe burn can occur. Circulatory collapse with Clammy skin, weak and rapid pulse, shallow Respiration and scanty urine may follow contact. Circulatory shock is often the immediate cause of death

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3. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT : H_2SO_4 (10 – 51%)
R. PHRASES : R: 35

INGESTION : Corrosive. Swallowing can cause severe burns of The mouth, throat and stomach, leading to death. Can cause sore throat, vomiting and diarrhoea. Circulatory collapse with clammy skin, weak and Rapid pulse, shallow respiration and scanty urine. Circulatory shock is often the immediate cause of death

INHALATION : Inhalation produces damaging effects on the mucous Membranes and upper respiratory tract. Symptoms May include lung oedema, a medical emergency.

CARCINOGENICITY : The International Agency of Research of research On Cancer (IARC) has classified "strong inorganic acid as a human carcinogen (IARC category 1). This classification does not apply to liquid forms of sulphuric acid solution contained within a battery. Inorganic acid mist is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulphuric acid mist.


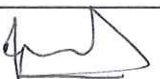
MUTAGENICITY : No information found

NEUROTOXICITY : No information found

4. FIRST AID MEASURES

EYES : Hold eyelids open and immediately rinse with cool Running water for at least 15 minutes. Seek medical attention after rinsing.

SKIN : Wash thoroughly with soap and water. Rinse for 15 Minutes. Discard contaminated clothing. Seek

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Medical attention.

INGESTION : Do not induce vomiting. Give plenty of water to Drink. Never give anything by mouth to an unconscious Person. Call a doctor immediately.

INHALATION : Remove to fresh air. If not breathing give artificial Respiration. If breathing is difficult give oxygen. Call a doctor immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Use dry chemical foam or CO₂. Water spray Can be used to cool containers exposed to Fire. Avoid the use of water where there is a Danger of spreading the acid.



SPECIAL HAZARDS (a) Contact with most metals will cause formation Of explosive / flammable hydrogen gas.
(b) Charging of batteries may generate hydrogen a Flammable and explosive gas. Keep sparks and Other sources of ignition away.

PROTECTIVE CLOTHING : Use pressure – demand, self-contained Breathing apparatus where acid vapour or Mist may be present

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Wear acid resistant boots, face-shield, Chemical splash goggles and acid resistant Gloves.

ENVIROMENTAL PRECAUTIONS : Do not release un-neutralised acid. Do not flush Lead contaminated acid to sewer even if it is Neutralised.

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SMALL SPILLS : Neutralise with soda ash or lime. Cover spill and Mix well until pH is neutral. Do not use organic Material such as saw dust. Collect into sealable Container and dispose of as hazardous waste.

LARGE SPILLS : Contain and collect as much as possible in Suitable containers. Dam and neutralise with Soda ash or lime. Absorb with sand or Vermiculite and collect in sealable containers. Do not use organic material such as sawdust. Dispose of as hazardous waste.

7. HANDLING AND STORAGE

**SUITABLE MATERIAL HANDLING/
STORAGE PRECAUTIONS** : Plastic Jerry Cans


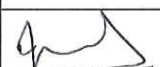
- (1) Store containers in a cool dry place
- (2) Do not stack containers more than 4 high.
- (3) An eyewash fountain and safety shower Should be located in or near the storage Areas used for lead acid batteries or acid containers. Such areas should be equipped with acid proof floors and a sump to collect neutralise and bag spills for correct disposal.
- (4) When diluting acid always add acid to water not water to acid as this will cause a violent reaction. Small quantities of water may be added to battery acid safely.
- (5) Handle lead acid batteries and containers of acid carefully to avoid spilling the acid.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMIT :

- 1 mg/m³ TWA
- 3 mg/m³ STEL
- (15 min max/ 8 hr. shift)

ENGINEERING CONTROL : A system of local and general exhaust is recommended to maintain concentration of sulphuric acid mist

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below 1mg/m³ when forming or charging batteries.

RESPIRATORY PROTECTION	:	None required under normal handling and conditions. If acid spillage occurs in a confined space or the TWA limit is exceeded then an approved respiration for protection against acid mist can be used.
EYE AND FACE PROTECTION	:	Chemical splash goggles in combination with a chemical face shield offer best protection.
HAND, ARM AND BODY PROTECTION	:	:Wear long sleeved shirt and trousers made of Synthetic material, impermeable, acid resistant apron And gauntlet type gloves.
OTHER PROTECTION	:	:Use safety shoes or boots with rubber or neoprene And steel to caps over socks. Place pants legs over Shoes / boots to keep acid out of boots. All footwear Must meet the requirements of ANSI Z41.1 Revision 1972.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	:	Clear oily liquid.
ODOUR	:	Odourless
pH	:	1N solution (ca. 5% w/w) = 0.3 0.1N solution (ca.0.5% w/w) = 1.2 0.01N solution (ca 0.05 % w/w) = 2.1
BOILING POINT	:	110°C (Des omposes 340°C)
MELTING POINT	:	-64°C
FLASH POINT	:	N/A
FLAMMABILITY	:	Non flammable
AUTO FLAMMABILITY	:	N/A
EXPLOSIVE PROPERTIES	:	Will generate explosive hydrogen gas on contact with most metals. Hydrogen gas liberated during charging of batteries.

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OXIDISING PROPERTIES	:	N/A
VAPOUR PRESSURE	:	11.7 mm/Hg at 20°C
DENSITY	:	3.4 (Air = 1)
SOLUBILITY – WATER	:	100%
SOLUBILITY – SOLVENT	:	N/A
SOLUBILITY COEFFICIENT	:	N/A
SPECIFIC GRAVITY	:	1.4 (50%) 1.07 (10%)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID	:	Heat, moisture and incompatibles. Prevent smoking, Fires and any other source of ignition around lead acid Batteries. Battery electrolyte will react with water to Produce heat. Can react with oxidising or reducing Agent. Do not allow acid to mix with any material Unless the material is a known compatible.
INCOMPATIBLE MATERIALS	:	Water, potassium chlorate, potassium perchlorate, Potassium permanganate, sodium, lithium, bases, Organic material, halogens, metal acetylates, oxides And hydrides, metals, strong oxidising or reducing Agents.
HAZARDOUS DECOMPOSITION PRODUCTS	:	Toxic fumes of oxides or sulphur when heated to Decomposition. Will react with water or steam to Produce toxic and corrosive fumes. Reacts with Carbonates to generate carbon dioxide gas and with Cyanides and sulphides to produce poisonous hydrogen Cyanide and hydrogen sulphide.

11. TOXOCOLOGICAL INFORMATION

ACUTE TOXICITY	:	Exposure to high concentration of battery electrolyte mist causes severe irritation of the eyes, respiratory tract and skin. It may also cause teeth erosion,
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Mouth soreness or breathing difficulties. Contact with battery electrolyte may irritate the skin and mucous membranes and may cause irreparable corneal damage and blindness as well as facial scarring which includes the eyelids

CHRONIC TOXICITY

: Repeated or prolonged exposure to battery electrolyte may cause skin irritation. Repeated or prolonged exposure to mist may erode the teeth, cause Dermatitis, chronic irritation of eyes, mouth and stomach and chronic inflammation of the nose, throat and bronchial tubes.

CARCINOGENICITY

: See section 3.

MUTAGENICITY

: Not known.

REPRODUCTIVE HAZARDS

: Not known.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY

: Toxic to aquatic life
Fish, daphnia, algae

BIODEGRADABILITY

: When released into the air this material may be Leach into ground water. When released into the air This material may be removed from the atmosphere to a moderate extent by wet deposition and dry deposition.

BIOACCUMULATION

: Not Known



MOBILITY

: Not known

13. DISPOSAL CONSIDERATION

DISPOSAL METHODS

: Whatever cannot be saved for recovery or recycling Should be handled as hazardous waste and disposed Of at any approved waste facility (Department of Environmental Affairs and Tourism) Processing, use or Contamination or this product (e.g. Lead) may change The waste management options.

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DISPOSAL OF PACKAGING : Dispose of container and unused contents in Accordance with legal requirements. Containers of This material may be hazardous when empty since They retain product residues. Observe all warnings And precautions listed for the product.

14. TRANSPORT INFORMATION

UN NO. : 2796
SUBSTANCE IDENTITY NO : Sulphuric acid, not more than 51% 7664- 93 -9

ROAD

PROPER SHIPPING NAME : Sulphuric acid, less than 51%

HAZARD CLASS : 8
PACKING GROUP : II
EXEMPT QUANTITY : 50L



IMDG

PROPER SHIPPING NAME : Battery acid
HAZARD CLASS : 8
PACKAGING GROUP : II
UN NO. : 2796
EXEMPT QUALITY : <200kg
(Sulphuric acid less than 51%)

15. REGULATORY INFORMATION

RISK PHRASES : C;R 35 Corrosive 1A ≥5%
SAFETY PHRASES : S :(1/2)- Keep locked away and out of reach of children
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S30- Never add water into the product
S45- In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

ADDITIONAL LEGISLATION : 1. Hazardous Chemical Substance Regulations of Occupational Health and Safety Act No. 85 of 1983.
2. National Road Traffic Act Chapter VII for Transportation of Dangerous goods
3. SANS 10232.1:2007 Emergency Information

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System.

16. OTHER INFORMATION

NFPA RATINGS

: Health 3
Flammability 0
Reactivity 2
Other – water reactive

LABEL HAZARD WARNING

: Poison – Danger
: Corrosive liquid and mist cause severe burns
To all body tissue. May be fatal if swallowed
Or contacted with skin. Harmful if inhaled. Affects
Teeth. Water reactive. Cancer hazard. Strong
Inorganic mists containing sulphuric acid can cause
Cancer. See Section 3

LABEL PRECAUTION

: Do not get in eyes, on skin or on clothing. Do not
Do not breathe mist. Keep container closed. Use only
With adequate ventilation. Wash thoroughly after
Handling. Do not allow uncontrolled contact with
Water. Keep locked up and out of reach with children.

LABEL FIRST AID

: In all cases call a physician immediately.
In case of contact, immediately flush eyes or skin with
Plenty of water for at least 15 minutes while removing
Contaminated clothing and shoes. Wash clothes
Before re-use. Excess acid on skin can be neutralised
Within a 2% bicarbonate of soda solution. If swallowed
DO NOT INDUCE VOMMITING. Give large quantities of
Water. Never give anything by mouth to an
Unconscious person. In inhaled remove to fresh air.
If not breathing give artificial respiration. If breathing
Is difficult – give oxygen.

First National Battery provides the information in this MSDS in good faith. However, First National Battery makes no representations as to its comprehensiveness or accuracy. This MSDS is intended, as a guide, for the appropriate precautionary handling of the material by a properly trained person using it.

Individuals receiving this information must exercise their independent judgement in determining its appropriateness for a particular process. First National Battery will not accept responsibility for damages resulting from use of or reliance upon this information.