

# Material Safety Data Sheet

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## 1. Product and Company Identification

**Brand:** ACCURAT  
**Series name:** ACCURAT Sport (AGM batteries)  
**Manufacturer:** batterium GmbH  
Robert-Bosch-Straße 1, 71691 Freiberg am Neckar, Germany  
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**Models:**

HVT-1 AGM

HVT-2 AGM

HVT-3 AGM

HVT-4 AGM

HVT-5 AGM

HVT-6 AGM

HVT-8 AGM



## 2. Composition / Information on Ingredients

Component	Approx. percentage (weight)	CAS No.	EC No.	WHMIS Classifications	Classification according to CLP(1272/2008)
Lead	60 to 78%	7439-92-1	231-100-4	D2A	Xn, N, T; R20/22, R33, R50, R50/53, R53, R61, R62; Repr. Cat. 1, Repr. Cat. 3; S53, S45, S60, 231-100-4 S61 except those specified elsewhere in the annex
Sulfuric acid	5 to 25%	7664-93-9	231-639-5	D1A, E (including >51%, ≤51%)	C; R35; S1/2, S26, S30, S45
Antimony	0 to 0.1%	7440-36-0	231-146-5	Uncontrolled product according to WHMIS classification criteria; D1B(powder)	Xn, N; R20/22, R51/53; S2, S61 except tetroxide, pentoxide, trisulphide, pentasulphide, and those specified elsewhere in the annex
Tin	0 to 0.2%	7440-31-5	231-141-8	Uncontrolled product according to WHMIS classification criteria	Not Listed
Arsenic	0 to 0.1%	7440-38-2	231-148-6	D1A,D22	T, N; R23/25, R50/53; S1/2, S20/21, S28, S45, S60, S61
Calcium	0 to 0.1%	7440-70-2	231-179-5	B6, E	F; R15; S2, S8, S24/25, S43

The case coposes 5-6% of the article. The case material includes the following components: 1-Propene, homopolymer (9003-07-0); Polystyrene (9003-53-6); Acrylonitrile, polymer with styrene (9003-54-7); Acrylonitrile, polymer with 1,3-butadiene and styrene (9003-56-9); Styrene polymer with 1,3-butadiene and styrene (9003-56-9); Styrene polymer with 1,3-butadiene (Kraton) (9003-55-8); Ethylene, chloro-, polymer (9003-86-2); Hard Rubber; Polycarbonate; Polyethylene.

## 3. Hazards Summary

<b>Sulfuric Acid:</b>	Under normal conditions of use, Sulfuric Acid vapors and mist are not generated. Sulfuric Acid vapors may be generated when the product is overheated, oxidized or otherwise processed or damaged.
<b>Lead Compounds:</b>	Under normal conditions of use, lead dust, vapors and fumes are not generated. Hazardous exposure may occur when the product is overheated, oxidized or otherwise processed or damaged to create dust, vapor or fumes.
<b>Other:</b>	May form explosive air/gas mixture during charging.
<b>Electrical hazard:</b>	Batteries can contain a considerable amount of energy, which may be a source of high electrical current and a severe electrical shock in the event of a short circuit.

### Routes of entry and potential health effects:

**Inhalation:** Sulfuric acid vapors or mist may cause severe respiratory irritation. Lead dust or fumes may cause irritation of upper respiratory tract or lungs.

<b>Skin contact:</b>	Sulfuric acid may cause severe irritation, burns and ulceration. Lead Compounds are not readily absorbed through the skin.
<b>Eye contact:</b>	Sulfuric acid may cause severe irritation, burns and cornea damage and possible blindness. Lead Compounds may cause eye irritation.
<b>Ingestion:</b>	Sulfuric acid may cause severe irritation of mouth, throat, esophagus and stomach. Lead ingestion may cause nausea, vomiting, weight loss, abdominal spasms, fatigue and pain in the arms, legs and joints.

Prolonged inhalation or ingestion may result in serious damage to health. Pregnant women exposed to internal components may experience reproductive/developmental effects.

**Acute health hazards:**  
Repeated or prologed contact may cause skin irritation.

**Chronic health hazards:**  
Persons exposed ot the internal components of the battery are at risk of lead poisoning. Lead absorption may cause nausea, vomiting, weight loss, abdominal spasms, fatigue, pain in the arms, legs and joints. Other effects may include central nervous system damage, kidney dysfunction and potential reproductive effects. Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.

**Medical conditions generally aggravated by exposure:**  
Respiratory and skin diseases may predispose the user to acute and chronic effects of sulfuric acid and/or lead. Children and pregnant women must be protected from exposure to lead. Persons with a kidney disease may be at increased risk of kidney failure.

**Additional information**  
No health effects are expected related to normal use of this product as sold.

## 4. First Aid Measures

<b>Inhalation:</b>	Move the affected person to fresh air. If they are not breathing, administer artificial respiration. Seek medical attention.
<b>Skin contact:</b>	Immediately remove contaminated clothing and shoes. Wash off affected area with plenty of water. Consult a physician.
<b>Eye contact:</b>	Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.
<b>Ingestion:</b>	Do not induce vomiting. Rinse mouth and drink plenty of water. Do not administer anything by mouth to an unconcious person. Consult a physician.

## 5. Fire Fighting Measures

<b>Hazardous combustion products:</b>	Toxic metal fumes, vapors or dust.
<b>Extinguishing media:</b>	Dry chemical powder, appropriate foam, CO <sub>2</sub>
<b>Unsuitable extinguishing media:</b>	Water

**Special Fire Fighting Procedures**

If batteries are charging, turn off power. Use positive pressure, self-contained breathing apparatus in fighting fire. Water applied to electrolyte generates heat and causes it to splatter. Avoid short circuits. Wear full fire-fighting suits. Ventilate area well.

**Unusual Fire and Explosion Hazards:**

Hydrogen and oxygen gases are generated in cells during normal battery operation or when charging. (Hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps during battery overcharging.

To avoid risk of fire or explosion, keep the battery away from sparks and other sources of ignition. Do not allow metal objects to simultaneously contact both positive and negative terminal of a battery.

Ventilate the area well.

## 6. Accidental Release Measures

**Personal precautions**

In case of battery acid spillage always wear suitable PPE (personal protective equipment) to avoid the electrolyte coming into contact with skin and eyes such as rubber gloves, rubber boots protective anti-acid safety glasses and overalls.

**Spill or leak procedures**

Stop the flow of contained material. Contain/absorb small spills with dry sand, earth etc. Do not use combustible materials. If possible, carefully neutralize any spilled electrolyte with neutralizing agents such as soda ash, sodium bicarbonate, lime or very diluted sodium hydroxide solutions. Wear acid-resistant clothing, boots, gloves and face protection.

**Spill containment / cleanup methods and materials**

Add neutralizer or absorbent material to the area of the spill and then place the absorbent and spilled material in an appropriate container. Dispose of any non-recyclable materials in accordance with international, national, state and local regulations.

**Environmental protective measures**

Always keep electrolyte or lead dust away from sewers, water drains and water sources.

## 7. Handling and Storage

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| <b>Handling:</b>    | Handle with care. Never lift a battery by its terminals.   |
| <b>Storage:</b>     | Store in cool, dry area away from combustible materials, direct sunlight and heat sources. Do not store in sealed, unventilated areas. Avoid overcharging.   |
| <b>Precautions:</b> | The batteries contain diluted sulphuric acid. Prevent any risk of short circuits. Do not charge in unventilated areas. Do not use organic solvents or other than recommended chemical cleaners on battery. |



Remove jewelry, rings, watches and any other metallic objects while working on batteries. All tools should be adequately insulated to avoid any possibility of short circuits. Do not lay tools on top of the battery. Be sure of discharge static electricity from tools and individual persons by touching a grounded surface in the vicinity of the batteries.

Batteries are heavy. Serious injury can result from improper lifting or installation. Do not lift, carry, install or remove cells by lifting or pulling the terminal posts. Do not wear nylon clothes or overalls as they can create static electricity. Always keep a class C fire extinguisher and emergency communications device in the work area.

Wash hands thoroughly after working with batteries and before eating, drinking or smoking.

## 9. Physical and Chemical Properties

Components	Density	Melting Point	Solubility	Odor	Appearance
Lead	11.34	327.4°C (Boiling)	None	None	Sliver-gray metal
Lead Sulfate	6.2	1070°C (Boiling)	40 mg/l (15°C)	None	White powder
Lead Dioxide	9.4	290°C (Boiling)	None	None	Brown powder
Sulfuric Acid	About 1.3	About 114°C (Boiling)	100%	Acidic	Clear colorless liquid
Fiberglass Sep.	N/A	N/A	Slight	Toxic	White fibrous glass
ABS	N/A	N/A	None	None	Solid

## 10. Stability and Reactivity

### Sulfuric acid:

- Chemical stability:** Stable at all temperatures.
- Polymerization:** Will not polymerize.
- Incompatibilities:** Reactive metals, strong bases, most organic compounds.
- Decomposition products:** Sulfuric dioxide, trioxide, hydrogen sulfide, hydrogen
- Conditions to avoid:** Prevent smoking, sparks, etc. in the battery charging area. Avoid mixing acid with other chemicals.

## 11. Toxicological Information

### Lead

The toxic effects of lead are accumulative and appear slowly. Lead may affect the kidneys as well as the reproductive and central nervous systems. Possible symptoms of lead overexposure are anemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite, as well as muscle and joint pain. Exposure to lead from a battery most often occurs during lead reclaiming operations through the inhalation or ingestion of lead dusts and fumes.

### Sulfuric acid

Sulfuric acid is a strong corrosive. Contact with acid can cause severe burns on the skin and in the eyes. Ingestion of sulfuric acid will cause GI tract burns. Acid may be released if the battery case is damaged or tampered with.

### Fiberglass separator

Fibrous glass is an irritant of the upper respiratory tract, skin and eyes. Use appropriate protection gear when necessary.

## 12. Ecological Information

Components	Flashpoint	Explosive limits	Comments
Lead	None	None	
Sulfuric Acid	None	None	
Hydrogen		4 to 74.2%	Sealed batteries can emit hydrogen only if over charged (float voltage > 2.4VPC)
Fiberglass Sep.	N/A	N/A	Poisonous vapors may be released. Please wear self contained breathing apparatus in case of fire.
ABS	None	N/A	Temperatures over 300°C may release combustible gases. Wear positive pressure self contained breathing apparatus.

## 13. Disposal Considerations

### Waste disposal methods

Recycle batteries or send them to a secondary lead smelter.

Place neutralized slurry into sealed containers and dispose of in accordance with international, national, state and local regulations. For further details, consult a state environmental agency.

## 14. Transport Information

### Ground Transport US-DOT/CAN-TDG/EU-ADR/APEC-ADR

Proper shipping name: Not regulated as a Hazardous Material

### Air Transport ICAO-IATA

Proper Shipping Name: Not regulated as a Hazardous Material

### Sea Transport IMO-IMDG

Proper Shipping Name: Not regulated as a Hazardous Material

**Additional information:**

Non-Spillable Batteries comply with the provisions listed in 49 CFR 173.159a. Therefore, they do not need to be marked with an identification number or hazardous label and are not subject to hazardous shipping paper requirements.

Transport requires proper packaging and paperwork, including the nature and quantity of goods, as prescribed by applicable origin/destination/customs points as shipped.

## 15. Regulatory Information

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

All ingredients remaining in the finished product as distributed into commerce are exempt from, or included on, the European Inventory of Existing Commercial Chemical Substances.

**European Communities (EC) Hazard Classification according to directives 67/548/EEC and 1999/45/EC.**

R-Phrases            35, 36, 38

S-Phrases            1/2, 26, 30, 45

**Additional Information**

This product may be subject to Restriction of Hazardous Substances (RoHS) regulations in Europe and China, or may be regulated under additional regulations and laws not identified above, such as for uses other than described or asdesigned/as-intended by the manufacturer, or for distribution into specific domestic destinations.

## 16. Other Information

The information given above is provided in good faith based on present knowledge and does not constitute an assurance of safety under all conditions. It's the users responsibility to observe all laws and regulations applicable. We make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or expemprary damages, howsoever arising, even if we have been advised of the possibilty of such damages. If there are any queries, the supplier should be consulted. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.