

1. IDENTICATION OF SUBSTANCE/PREPARATION AND COMPANY

This product is not a substance or preparation within the meaning of the German Chemicals Act (ChemG).

Product Designation:

Starter battery (wet, filled with acid) Voltage: 12 volts Electrochemical System: Lead, sulfuric acid

Product Use:

Starter battery for motor vehicles

Supplier:

VIEROL AG Peterstrasse 6 26121 Oldenburg Germany

Emergenc Telephone:

Poison Help Hotline (State of Saxony) Tel. +49 361 730730

2. COMPOSITION/INFORMATION ON INGREDIENTS

Name of Substance	CAS No.	% by Weight*	EINECS No.	Code	Risk Phrases
Lead	7439-92-1	35-45	231-100-4	Т	20/22, 33, 61, 62
Lead oxide	1309-60-0	12-18	215-174-5	T, N	20/22, 33, 50/53, 61, 62
Sulfuric acid, diluted	7644-93-9	30-40	231-639-5	С	35
30-38%; 1.22-1.29 kg/l					
Polypropylene	-	8-12	-	-	-

*) as a % of the total weight of the battery

3. HAZARDS IDENTIFICATION

- When used properly, undamaged starter batteries pose no hazard to humans or the environment.
- Sulfuric acid may be released if case is damaged or broken corrosive hazard.
- Short-circuiting of the terminals may cause fire.
- Failure to follow instructions when charging the battery may result in the release of hydrogen gas (may cause bursting of case and battery explosion).
- May form hazardous decomposition products (sulfur trioxide) in the event of fire.
- The refilling of the battery cells to their proper level with purified (distilled) water is considered non-hazardous.



4. FIRST AID MEASURES FOR CONTACT WITH ACID

4.1 General Information

• Immediately remove any clothing that is contaminated with acid.

4.2 After Inhalation

- Remove victim from the hazardous area to fresh air and seek medical advice.
- Keep the victim calm and protect against hypothermia.
- If breathing is difficult, have victim sit in a semi-erect position.
- Have victim deeply inhale Dexamethasone-21-Isonicotinate (e.g. Auxiloson® metered-dose aerosol): Four puffs initially, and then two puffs every five minutes until first package is empty. Inhale one puff every hour thereafter.
- If unconscious, but breathing, place victim in recovery position.
- In case of respiratory arrest, perform mouth-to-nose rescue breathing; if unable to use this method, perform mouth-to-mouth rescue breathing.
- Keep the airway clear.
- In case of cardiac arrest, immediately begin CPR.

4.3 After Contact With Skin

- Remove contaminated clothing as quickly as possible while protecting yourself against contamination.
- Use absorbent paper or cloth to soak up any concentrated acid first, since such acid may react violently with water and generate intense heat.
- Rinse affected areas of skin under running water for ten minutes.
- Use an emergency deluge shower if contamination covers a large part of the body.
- Otherwise flush with large amounts of water and then keep the victim calm and warm.
- Seek medical advice.

4.4 After Contact With Eyes

- Immediately flush the affected eye (holding the eyelids wide open) with large amounts of running water for at least ten minutes, while protecting the uninjured eye.
- Gently spray water directly into the eye in order to remove any acid residue as completely and quickly as possible.
- Seek medical advice.

4.5 After Ingestion

- Rinse mouth thoroughly and spit out all liquids.
- Immediately drink 1 to 2 glasses of water (milk or tea).
- Do not attempt to neutralize with sodium bicarbonate or lye. Do not use activated charcoals.
- Do not induce vomiting.
- Summon physician to the scene of the accident.
- In case of sudden vomiting, hold the victim's head at stomach level to prevent vomit from entering the airway.

Seek immediate medical attention in cases of accident or injury.

4.6 Information For The Physician

- Tell the physician what the contaminating material/product is and what actions were taken.
- Risk of perforation of the stomach.



5. FIRE-FIGHTING MEASURES

- Suitable extinguishing agents: CO2 and dry chemical (dry powder) extinguishers.
- Use fire-fighting methods appropriate to the surroundings.
- Be careful of acid escaping from destroyed battery cases.
- May produce hazardous decomposition products (sulfur trioxide).

6. ACCIDENTAL RELEASE MEASURES

Suitable protective measures must be instituted before entering the hazardous area for the purpose of eliminating the unsafe conditions.

6.1 Lead/Lead Oxide

- Mechanically collect any lead or lead oxide while avoiding dust build-up.
- Place collected materials in containers.
- Do not incinerate waste containing lead oxide.
- Perform a moist clean-up of any scattered substances and do not allow them to be spread to other areas.
- Prevent substances from getting into the ground or bodies of water.

6.2 Sulfuric Acid

- Do not allow discharge of acid into sewer or bodies of water.
- Dilute with water and then neutralize with soda lye, sodium carbonate or calcium carbonate. (Caution! Use of carbonates produces large amounts of CO2.)

ALTERNATIVELY:

- Use binding agents (e.g. sand) to contain/absorb spilled battery acid. Neutralize with lime or anhydrous soda and store in closed containers until proper disposal can be made.
- Immediately clean all contaminated surfaces with plenty of water.

6.3 Polypropylene

• None

7. HANDLING AND STORAGE

7.1 Handling

- Do not tip or throw batteries.
- Take active measures to prevent the short-circuiting of the battery terminals.
- Follow the battery manufacturer's instructions when charging the batteries.
- Follow the instructions when installing in vehicles (polarity).

7.2 Storage

• There are no special storage requirements for ready-to-use batteries.

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

Not applicable.





8.2 Personal Protection When Handling Battery Acid

Hand Protection

- Wear protective gloves.
- The glove material must be sufficiently impermeable and durable.
- Check fit and seal before use.
- Protect skin against exposure.
- Clean gloves before removing and then store in a well-ventilated area.
- Avoid contact with skin.

Eye Protection

• Wear safety goggles.

8.2 General Protection and Hygiene Measures

- Follow the standard precautionary measures for handling chemicals.
- Avoid contact with skin, eyes and clothing.
- Avoid inhaling fumes or vapors.
- Wash hands before breaks and at end of shift.
- Seek medical attention if you feel unwell.

9. PHYSICAL AND CHEMICAL PROPERTIES

Closed plastic case with connector terminals

OTHER PHYSICAL AND CHEMICAL PROPERTIES Not applicable.

OTHER INFORMATION Electrical energy storage device (voltage, capacity).

10. STABILITY AND REACTIVITY

Follow manufacturer's battery charging and installation instructions.

10.1 Plastic case

- Melting point of plastic case: approx. 160°C.
- Flash point of plastic case: approx. 380°C.

10.2 Sulfuric acid/Battery Acid

- Sulfuric acid decomposes at temperatures above 338°C.
- Sulfuric acid decomposition product: Sulfur trioxide.

10.3 Lead/Lead Oxide

- Lead oxide decomposes and releases oxygen at temperatures above 300°C.
- Decomposition product: Oxygen.

SAFETY DATA SHEET according to 91/155/EEC and 2001/58/EC



11. TOXOLOGICAL INFORMATION

No toxic substances are released when product is used for its intended purpose and in accordance with the battery manufacturer's instructions.

11.1 Sulfuric Acid/Battery Acid

Acute Toxicity

- Relevant LD/LC50 values: LD50 | 2140 mg/kg-1 (oral, rat)
- May cause irritation and burning of skin, gums and mucous tissues.
- May cause severe damage to the eyes and lungs.
- Swallowing or ingestion may lead to perforation of the esophagus and stomach.

11.2 Lead/Lead Oxide

Acute Toxicity

- May cause gastrointestinal problems.
- May damage the central nervous system.
- May lead to blood damage and disorders.
- Symptoms of lead poisoning from inhalation or ingestion include a sweet metallic taste, salivation and vomiting.

11.3 Polypropylene

Not applicable.

See also the information in Section 2 .

12. COLOGICAL INFORMATION

No ecologically hazardous substances are released when product is used for its intended purpose and in accordance with the battery manufacturer's instructions.

12.1 Lead/Lead Oxide (enveloped by sulfuric acid / battery acid)

- Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.
- Water Hazard Class (WGK) III: Extremely hazardous to water.

12.2 Sulfuric Acid/Battery Acid

- Substances are hazardous to water within the meaning of the German Federal Water Management Act (WHG).
- Water Hazard Class (WGK) I: Slightly hazardous to water.

12.3 Polyproplyene

Not applicable.

13. DISPOSAL CONSIDERATIONS

13.1 Product

- Do not dispose of product with household waste.
- Send to an authorized waste management company for disposal.
- Product must be recycled after use.



14. TRANSPORT INFORMATION

Ground transport ADR/RID (international/domestic)

٠	ADR/RID Class:	8
•	Calssification code:	C11

- Kemler number: 80
 UN nubmer: 2794
 Hazard Label Class: 8
 Designation of the Goods: ATTERIES (ACCUMULATORS), WET, FILLED WITH ACID, electrical storage.
- Special Provisions: 295 and 598

Sea transport IMDG

•	IMDG Class:	8
•	UN nubmer:	2794
•	Marine Pollutant Status:	None
•	EMS:	F-A, S-B
•	MFAG:	700
•	Proper Shipping Name:	BATTERIES, WET, FILLED WITH ACID, electric storage.
•	Special Provisions:	295

Air Transport ICAO-TI UND IATA-DGR

- ICAO/IATA Class: 8
- UN/ID nubmer: 2794
- Proper Shipping Name: BATTERIES, WET, FILLED WITH ACID, electric storage.

15. REGULATORY INFORMATION

15.1 Hazard symbols and designations









N Dangerous for the environment

15.2 Hazardous Components Required To Be Labeled

• Lead/lead oxide and sulfuric acid 30-38% / battery acid.

15.3 Risk Phrases

- R20/22 Harmful by inhalation and if swallowed.
- R33 Danger of cumulative effects.
- R35 Causes severe burns.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R61 May cause harm to the unborn child.
- R62 Possible risk of impaired fertility.



15.4 Safety Phrases

- S01/02 Keep locked up and out of the reach of children.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S35 This material and its container must be disposed of in a safe way.
- S45 In case of accident, or if you feel unwell, seek medical advice immediately. (Show this label where possible.)
- S53 Avoid exposure obtain special instructions before use.
- S60 This material and its container must be disposed of as hazardous waste.
- S61 Avoid release to the environment. Refer to special instructions / safety data sheets.

CLASSIFICATION UNDER THE GERMAN ORDINANCE ON COMBUSTIBLE LIQUIDS (VbF) Not applicable.

Comply with all government regulations when storing and handling this product.

16. OTHER INFORMATION

16.1 Relevant Risk Phrases

R20/22 Harmful by inhalation and if swallowed.
R33 Danger of cumulative effects.
R35 Causes severe burns.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R61 May cause harm to the unborn child.
R62 Possible risk of impaired fertility.

Department issuing the material safety data sheet:

Product Management der VIEROL AG.

Contact Person: Frank Theuer, theuer@vierol.de

The classification corresponds to current EU directives and is supplemented by information taken from technical literature and provided by company sources.

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