Beiblatt zum Sicherheitsdatenblatt / *Supplement to the safety data sheet*

Abschnitt 1 / *Section 1*

s. Original-Datenblatt / see original safety data sheet

1.1 Produktidentifikation / *Product identification* s. Original-Datenblatt / *see original safety data sheet*

1.2 Verwendungen des Stoffs / *Uses of the substance* s. Original-Datenblatt / *see original safety data sheet*

1.3 Einzelheiten zum Lieferanten / *Details of the supplier*

Firmenname /	*Supplier*	Stürmer Maschinen GmbH,
Straße /	*Street*	Dr.-Robert-Pfleger-Str. 26,
Ort /	*City*	D-96103 Hallstadt
Tel. /	*Phone*	+49 (0)951 96555 - 0 (07:00 - 17:00 Uhr / *07:00 am - 05:00 pm*)
E-Mail /	*E-Mail*	info@stuermer-maschinen.de

1.4 Notrufnummer / *Emergency Telephone*

Wählen Sie die passende Notrufnummer anhand des GHS-Symbols auf Ihrem Gefahrgut oder entsprechend Abschnitt 2.2 des orig. Sicherheitsdatenblattes *.
*Call the appropriate emergency number using the GHS symbol on your dangerous goods or according to section 2.2 of the original safety data sheet *.*

GHS Gefahren-piktogramm / *GHS symbol*	**GHS-Kürzel/ *GHS-no.***	**Mögliche Signalwörter/ *Warning***	**Gefährdungsklassen / *Description of hazards***	**Notrufnummer */ *Emergency Phone **
	GHS01 bis GHS09			+49 (0)951 96555 **- 590** Sammelnotrufnummer Gefahrstoffe
	GHS01	Gefahr oder Achtung / *Danger or Attention*	Explosive Stoffe/Gemische und Erzeugnisse mit Explosivstoff, selbstzersetzliche Stoffe/Gemische, organische Peroxide / *Explosive substances / mixtures and products containing explosives, self-reactive substances / mixtures, organic peroxides*	**- 591**
	GHS02	Gefahr oder Achtung / *Danger or Attention*	Selbstzersetzliche Stoffe/Gemische, organische Peroxide, entzündbare Gase, Aerosole Flüssigkeiten, Feststoffe, selbsterhitzungsfähige Gemische, pyrophore Flüssigkeiten und Feststoffe, Stoffe/Gemische, die bei Berührung mit Wasser entzündbare Gase bilden / *Self-reactive substances / mixtures, organic peroxides, flammable gases, aerosols, liquids, solids, self-heating mixtures, pyrophoric liquids and solids, substances / mixtures which form flammable gases on contact with water*	**- 592**
	GHS03	Gefahr oder Achtung / *Danger or Attention*	Oxidierende Gase, Flüssigkeiten, Feststoffe / *Oxidizing gases, liquids, solids*	**- 593**
	GHS04	Achtung / *Attention*	Verdichtete, verflüssigte, gelöste und tiefgekühlt verflüssigte Gase / *Compressed, liquefied, dissolved and refrigerated liquefied gases*	**- 594**
	GHS05	Gefahr oder Achtung / *Danger or Attention*	Verätzung der Haut, schwere Augenschäden, auch metallkorrosive Eigenschaften / *Chemical burns to the skin, severe eye damage, also metal-corrosive properties*	**- 595**
	GHS06	Gefahr / *Danger*	Äußerst schwere und schwere akute Gesundheitsschäden oder Tod / *Extremely severe and severe acute damage to health or death*	**- 596**
	GHS07	Achtung / *Attention*	Akute Gesundheitsschäden, Reizung der Haut, der Augen und der Atemwege, Sensibilisierung der Haut, narkotisierende Wirkungen / *Acute damage to health, irritation of the skin, eyes and the respiratory tract, sensitization of the skin, narcotic effects*	**- 597**
	GHS08	Gefahr oder Achtung / *Danger or Attention*	Chronische Gesundheitsschäden (Organschädigungen) bei einmaliger oder mehrmaliger Exposition, krebserzeugende, erbgutverändernde und fort-pflanzungsgefährdende Wirkungen, Lungenschäden durch Eindringen von Substanzen in die Lunge (Aspirationsgefahr), Sensibilisierung der Atemwege / *Chronic damage to health (damage to organs) after single or multiple exposure, carcinogenic, mutagenic and reproductive effects, lung damage due to the penetration of substances into the lungs (risk of aspiration), sensitization of the respiratory tract*	**- 598**
	GHS09	Achtung oder ohne Signalwort/ *Attention or without wording*	Giftig für Wasserorganismen mit kurz- und langfristiger Wirkung / *Toxic to aquatic organisms with short and long-term effects*	**- 599**

* 07:00 - 17:00 Uhr, außerhalb dieses Zeitraums kann die Nummer auf dem Sicherheitsdatenblatt angerufen werden /
07:00 am - 05:00 pm, outside this time, the number on the safety data sheet can be called

Für alle anderen Informationen siehe Original-Sicherheitsdatenblatt / *For all other information, see the original safety data sheet*

Safety Date Sheet

For Chemical Produces
(Acording to GB16483-2008)

S D S

SDS Version : 2.0-English
Production Name : Valve-regulated lead-acid battery
Properation Date: 2018.1.2
Revise Date : 2018.1.2

Section 1-Chemical Product & Company Information

Product Identifier

Product Name : Sealed Maintenance Free Lead-Acid Battery

Trade Name: SLA,VRLA,Sealed Reconbinent, Wet, Non-Spillable Battery

Product Code: DJW,DJM,DJ,LP,LPC,LPF,LPX,LPS,FT LHR Series

Use Of The Chemical Products

Intend Use : Electric Battery Standby

Limited Use: The Battery Is Choiced According The Application

Supplier Identifier

Company Name : Leoch International Technology Limited

Address: 5TH FLOOR,XINBAOHUI BLDG,NANHAI BLVD,NANSHAN.
SHENZHEN CHINA.518052

Postcode:

E-Mail :

Telephone: 086-755-8603-6060

Fax: 086-755-2606-7269

Emergency Telephone:

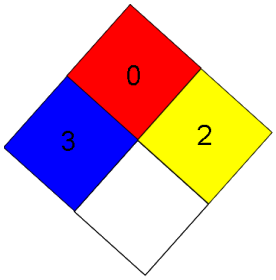
Section 2-Hazards Identification

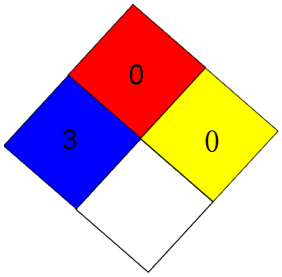
China Regulations

A. Not applicable under normal conditions.

B. Incase of damage resulting in breakage of the battery container, see section10, personal protection and equipment.

Sulfuric Acid		Lead and Lead Compounds	
Flammability (Red)	0	Flammability (Red)	0
Health (Blue)	3	Health (Blue)	3
Reactivity (Yellow)	2	Reactivity (Yellow)	0





SDS Version : 2.0-English
Production Name : Valve-regulated lead-acid battery
Properation Date: 2018.1.2
Revise Date : 2018.1.2

GHS Label Elements

Hazard & Precautionary statement

Pay attention to the operation instructions and position them close to the battery.
All work carried out by skilled personnel only!

Use protective glasses, gloves and clothes when working on batteries.
Pay attention to the accident prevention rules as well as EN 50272-2 and EN501110-1

No smoking! Do not expose batteries to naked flames, glowing embers or sparks,
as it may cause the battery to explode.

Acid splashes into the eyes or on the skin must be washed with abundant water.
In case of accident after flushing with plenty of water consult a doctor immediately!
Clothing contaminated by acid should be washed in water without delay.

Risk of explosion and fire due to explosive gases (hydrogen-oxygen)escaping
from the battery. Avoid short circuits! CAUTION: Metal parts of the battery
are always live, therefore do not place tools or other metal objects on the battery!

Electrolyte (approx. 30% dilute sulfuric acid) is highly corrosive. Under normal
operating conditions vented batteries in vertical position do not release electrolyte.

Dangerous electrical voltage! Metal parts of the battery are always live.

Section 3-Hazards Ingredients/Identity Information

COMPONENTS	Approx % by Wt.	CAS Number	Air Exposure Limits (μg/m^3)			LD_{50} ORAL (Rat) (mg/kg)
			ACGIH TLV	OSHA	NIOSH	
Inorganic Lead/Lead Compounds	65-75	7439-92-1	50	50	50	500
Tin (Sn)	<0.5	7440-31-5	2000	2000	--	--
Calcium (Ca)	<0.1	7440-70-2	--	--	--	--
Dilute Sulfuric Acid	10~20	7664-93-9	200	1000	1000	2140
Case Material: Acrylonitrile Butadine Styrene (ABS)	~5	9003-56-9	--	--	--	--

Section 4-Physical Date

COMPONENTS	DENSITY g/cm^3	MELTING/BOILING (M/B) POINT	SOLUBILITY (H2O)	ODOR	APPEARANCE
Lead	11.34	327.46 °C, 621.43 °F (M)	None	None	Sliver-Gray Metal
Lead Sulfate	6.20	1170 °C, 2138 °F (B)	40 mg/l (15 °C, 59 °F)	None	White crystals or powder
Lead Dioxide	9.40	290 °C, 554 °F (M)	None	None	Dark brown Powder
Sulfuric Acid	~1.3	95°C -115°C , 203°F - 240°F (B)	100%	Sharp, penetrating, pungent odor	Clear Colorless Liquid
Case Material: Acrylonitrile Butadine Styrene (ABS)	1.05-1.06	130-160°C 266°F -320°F (M)	None	None	Solid

Section 5-Flammability Data

COMPONENTS	FLASHPOINT	EXPLOSIVE LIMITS	COMMENTS
Lead	None	None	None
Sulfuric Acid	None	None	None
Hydrogen	--	LEL=4.1% UEL=75%	Sealed batteries can emit hydrogen only if over charged (float voltage> 2.4 VPC). The gas enters the air through the vent caps. To avoid the chance of a fire or explosion, keep sparks and other sources of ignition away from the battery. Extinguishing Media: Dry chemical, foam, CO2
Acrylonitrile	None	--	Temperatures over 300°C (572°F) may release
Butadine Styrene (ABS)			combustible gases. In case of fire: wear positive pressure self-contained breathing apparatus.

Section 6-Reactivity Data

COMPONENT	**Lead/lead compounds**
Stability	Stable
Incompatibility	Potassium, carbides, sulfides, peroxides, phosphorus, sulfurs, ketone, ester, petrolatum
Decomposition products	Oxides of lead and sulfur.
Condition to avoid	High temperature, Sparks and other sources of ignition.
COMPONENT	**Sulfuric Acid**
Stability	Stable
Incompatibility	Reactive metals, strong bases, most organic compounds
Decomposition products	Sulfuric dioxide, trioxide, hydrogen sulfide, hydrogen
Condition to avoid	Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing acid with other chemicals.
POLYMERIZTION	Sulfuric acid will not polymerize

Section 7-Health Hazard Data

Battery is considered as sealed non-spillable one. Under normal operating conditions, the materials sealed inside should not be hazardous to people's health. Only when these materials exposed during production or under case broken condition or being extremely heated (fired), they may be hazardous to people's health.

Routes of Entry:
Sulfuric Acid: Harmful by all routes of entry.
Lead Compounds: Hazardous Exposure can occur only when product is heated, oxidized, or otherwise processed or damaged to create dust, vapor or fume.

Inhalation:
Sulfuric Acid: Breathing sulfuric acid vapors and mists may cause severe respiratory problems.
Lead Compounds: Dust or fumes may cause irritation of upper respiratory tract or lungs.

Skin Contact:
Sulfuric Acid: Severe irritation, burns and ulceration.
Lead Compounds: Not absorbed through the skin.

Ingestion:
Sulfuric Acid: May cause severe irritation of the mouth, throat, esophagus, and stomach.
Lead Compounds: May cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. Acute ingestion should be treated by a physician.

Acute Health Hazards:
Sulfuric Acid: Severe skin irritation, burns, damage to cornea may cause blindness, upper respiratory irritation.
Lead Compounds: May cause abdominal pain, nausea, headaches, vomiting, loss of appetite, severe cramping, muscular aches and weakness, and difficulty sleeping. The toxic effects of lead are cumulative and slow to appear. It affects the kidneys, reproductive and central nervous systems. The symptoms of lead overexposure are listed above. Exposure to lead from a battery most often occurs during lead reclamation operations through the breathing or ingestion of lead dust or fumes.

Chronic Health Hazards:
Sulfuric acid: Possible scarring of the cornea, inflammation of the nose, throat and bronchial tubes, possible erosion of tooth enamel.
Lead Compounds: May cause anemia, damage to kidneys and nervous system, and damage to reproductive system in both males and females.

Medical Conditions Generally Aggravated by Exposure
Inorganic lead and its compounds can aggravate chronic forms of kidney, liver, and neurological diseases. Contact of battery electrolyte (acid) with the skin may aggravate skin diseases such as eczema and contact dermatitis. Overexposure to sulfuric acid mist may case lung damage and aggravate pulmonary conditions.

Emergency and First Aid Procedures
Inhalation
Sulfuric Acid: Remove to fresh air immediately. If breathing is difficult, give oxygen
Lead Compounds: Remove from exposure, gargle, wash nose and lips, consult physician
Ingestion
Sulfuric Acid: Do not induce vomiting, consult a physician immediately.
Lead Compounds: Consult a physician immediately
Eyes
Sulfuric Acid: Flush immediately with water for 15 minutes, consult a physician.
Lead Compounds: Flush immediately with water for 15 minutes, consult a physician
Skin
Sulfuric Acid: Flush with large amounts of water for at least 15 minutes, remove any contaminated clothing. If irritation develops seek medical attention.
Lead Compounds: Wash with soap and water.
Proposition 65
Warning: Battery posts, terminals and related accessories contain lead and lead compounds, chemical known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. Wash hands after handling.

Section 8-Carcinogenicity

Carcinogenicity
Sulfuric Acid: The National Toxicological Program (NTP) and The International Agency for Research on Cancer (IARC) have classified strong inorganic acid mist containing sulfuric acid as a Category 1 carcinogen, a substance that is carcinogenic to humans. The ACGIH has classified strong inorganic acid mist containing sulfuric acid as an A2 carcinogen (suspected human carcinogen). These classifications do not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.
Lead Compounds: Human studies are inconclusive regarding lead exposure and an increased cancer risk. The EPA and the International Agency for Research on Cancer (IARC) have categorized lead and inorganic lead compounds as a B2 classification (probable/possible human carcinogen) based on sufficient animal evidence and inadequate human evidence.

Section 9-Precautions For Safe Handling And Use

Spill or Leak Procedures
In case the release occurs, stop flow of material: contain/absorb small spills with dry sand, earth, and vermiculite. If possible, carefully neutralize spilled electrolyte with soda ash, sodium bicarbonate, lime, etc. Wear acid-resistant clothing, boots, gloves, and face shield. Do not allow discharge of unneutralized acid to sewer.

Waste Disposal Method
Spent Batteries - send to secondary lead smelter for recycling. Follow applicable federal, state and local regulations
Neutralize as in preceding step. Collect neutralized material in sealed container and handle as hazardous waste as applicable.
A copy of this MSDS must be supplied to any scrap dealer or secondary lead smelter with the battery. Or, consult state environment agency and/ or federal EPA.

Handling and Storing
Store batteries in a cool, dry, well ventilated area that are separated from incompatible materials and any activities which may generate flames, sparks, or heat. Keep all metallic articles that could contact the negative and positive terminals on a battery and create a short circuit condition. Battery should be stored under roof for protection against adverse weather conditions. Store and handle only in areas wit adequate water supply and spill control. Avoid damage to battery case.

Electrical Safety
Due to the battery's low internal resistance and high power density, high levels of short circuit current can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems.

Section 10-Ecological Information

Lead and its compounds can pose a threat if released to the environment. See Waste Disposal Method in Section 8.

Section 11-Control Measures

Engineering Controls:
Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid resistant.

Work Practices:
Handle batteries cautiously to avoid damaging the case. Avoid contact with internal components. Do not allow metallic articles to contact the battery terminals during handling.

Respiratory Protection:
None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

Personal Protection and Equipment: None needed under normal conditions. If battery case is damaged,

- Protective gloves: use rubber or plastic acid-resistant gloves with elbow-length gauntlet.
- Eye protection: use chemical goggles or face shield.
- Other p rotection: A cid-resistant a pron. U nder s evere e xposure or e mergency c onditions, w ear a cid –resistant clothing and boots.
- In areas where sulfuric acid is handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

Section 12-Transporation Regulations(Non-Restricted Status)

GROUND – US DOT:

Our non-spillable lead acid batteries are under the U.S. Department of Transportation's (DOT) hazardous materials regulations but are excepted from these regulations since they meet all of the following requirements found at 49 CFR 173.159(d).

- When offered for transport, the batteries are protected against short circuits and securely packaged as required by 49 CFR 173.159(d) (1);
- The b atteries an d o uter p ackaging ar e marked w ith t he w ords "N ONSPILLABLE" o r "N ONSPILLABLE BATTERY" as required by 49 CFR173.159(d) (2);
- The batteries comply with the vibration and pressure differential tests found in 49 CFR 173.159(d) (3).

AIRCRAFT – ICAO-IATA:

Our non-spillable lead acid batteries also are excepted from the international hazardous materials (also known as "dangerous goods") regulations since they comply with the following requirements:

- According to the requirements of Packing Instruction 806 **in IATA (International Air Transport Association) and ICAO (International Civil Aviation Organization)**, there should not be any electrolyte leakage after the vibration and pressure differential tests.
- And, Special Provision A67 states "Non-spillable batteries are not subject to these Instructions (Packing Instruction 806) if at the temperature of 55° C (131° F), the electrolyte will not flow from a ruptured or cracked case and there is no f ree l iquid f low a nd i f, w hen pa ckaged f or t ransport t he t erminals a re pr otected f rom short c ircuit and unintentional activation."

VESSEL – IMO-IMDG:

Our n on-spillable batteries are excepted from th e in ternational ha zardous m aterials (also k nown a s " dangerous g oods") regulations since they conform to the requirements of IMDG Code Special Provision 238 .1 and .2, that is the batteries have passed the vibration and pressure differential performance tests, and at a t emperature of 55°C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid flow. And, when packaged for transport, the terminals are protected from short circuit.

Additional Information:

- Each battery and the outer packaging must be plainly and durably marked "Nonspillable" or "Nonspillable Battery".
- Transport requires proper packaging and paperwork, including the nature and quantity of goods, per applicable origin/destination/customs points as-shipped.

Section 13-Regulatory Information

RCRA
Spent lead acid batteries are not regulated as hazardous waste by the EPA when recycled, however state and international regulations may vary. Spilled sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D2002 (corrosive).

CERCLA (superfund) and EPCRA
(a) Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (superfund) and EPCRA (Emergency Planning Community Right to Know Act is 1,000lbs. State and local reportable quantities for spilled sulfuric acid may vary.
(b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA with a Threshold Planning Quantity (TPQ) of 1,000lbs.
(c) EPCRA Section 302 Notification is required if 1,000lbs. or more of sulfuric acid is present at one site. The quantity of sulfuric acid will vary by battery type. Contact **SHENZHEN LEOCH BATTERY CORPORATION** for additional information.
(d) EPCRA Section 312 Tier 2 reporting is required for batteries if sulfuric acid is present in quantities of 500lbs. or more and/or lead is present in quantities of 10,00lbs. or more.
(e) Supplier Notification: This product contains toxic chemicals which may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. If you are a manufacturing facility under SIC codes 20 through 39 the following information is provided to enable you to complete the required reports:

Toxic Chemical	CAS Number	Approximate% by weight
Lead	7439-92-1	65~75
Sulfuric Acid	7664-93-9	15~20

If you distribute this product to other manufacturers in SIC codes 20 through 39, this information must be provided with the first shipment in a calendar year. The Section 313 supplier notification requirement does not apply to batteries which are "consumer products". Not present in all battery types. Contact **LEOCH BATTERY CORPORATION** for further information.

TSCA
Ingredients in Leoch Battery's batteries are listed in the TSCA registry as follows:

Components	CAS Number	TSCA Status
Inorganic Lead Compound: Lead (Pb)	7439-92-1	Listed
Lead Oxide (PbO)	1317-36-8	Listed
Lead Sulfate (PbSO4)	7446-14-2	Listed
Calcium (Ca)	7440-70-2	Listed
Tin (Sn)	7440-31-5	Listed

CANANIN REGULATIONS:
All chemical substances in this product are listed on the CEPA DSL/NDSL or are exempt from list requirements.

DISCLAIMER:

ALL PERSONS USING THIS PRODUCT, ALL PERSONS WORKING IN AN AREA WHERE THIS PRODUCT IS USED AND ALL PERSONS HANDLING THIS PRODUCT SHOULD BE FAMILIAR WITH THE CONTENTS OF THIS DATA SHEET. THIS INFORMATION SHOULD BE EFFECTIVELY COMMUNICATED TO EMPLOYEES AND OTHERS WHO MIGHT COME IN CONTACT WITH THE PRODUCT.

THIS MATERIAL SAFETY DATA SHEET IS BASED UPON INFORMATION AND SOURCES AVAILABLE AT THE TIME OF PREPARATION OR REVISION DATE. WE DO NOT ASSURE RESPONSIBILITY AND DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE IN ANY CONNECTED WITH THE HANDLING, STORAGE, USE OF, OR DISPOSAL OF THE PRODUCT. FOR ADDITIONAL INFORMATION CONCERNING *LEOCH BATTERY CORPORATION*. PRODUCTS OR QUESTIONS CONCERNING THE CONTENT OF THIS MSDS PLEASE CONTACT *LEOCH BATTERY CORPORATION*.