

Safety Data Sheet

1. IDENTIFICATION



Product Name: Lead Acid Battery, Dry (without Electrolyte) / Optima Battery™, Dry (without Electrolyte) Synonyms: Sealed Lead Acid Battery	Product Use: Vehicle Electrical System Manufacturer/Supplier: Clarios Address: Florist Tower 5757 N. Green Bay Avenue Glendale, WI 53209 US
General Information Number: (800)-333-2222 ext. 2267 Contact Person: Industrial Hygiene & Safety Department	Emergency number: CHEMTREC: 800-424-9300 <i>(For US & Canada use only)</i>

NOTE: The Clarios sealed cell/battery is considered an article as defined by 29 CFR 1910.1200 (OSHA Hazard Communication Standard). The information contained in this SDS is supplied at the customer's request for information only.

2. HAZARD(S) IDENTIFICATION

Health		Environmental		Physical
Acute Toxicity (Oral, dermal, inhalation)	Category 4	Aquatic	Chronic 1	Not Classified
Reproductive	Category 1A	Aquatic	Acute 1	
Carcinogenicity (lead)	Category 1B			
Specific target organ toxicity (repeated exposure)	Category 2			

Label Elements:

Health	Environmental
	
Hazard Statements DANGER! May damage fertility or the unborn child if ingested or inhaled. May cause cancer if ingested or inhaled. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure.	Precautionary Statements Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing, eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Irritating to eyes, respiratory system, and skin.

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:
Lead	7439-92-1	63 - 91
Case Material Polypropylene	9010-79-1	2 - 6
Separator/Paster Paper Fibrous Glass	65997-17-3	<1 - 4

Composition Comments All concentrations are in percent by weight.

4. FIRST AID MEASURES

Inhalation Remove from exposure, gargle, wash nose and lips; consult physician.
Skin contact Wash immediately with soap and water.
Eye contact Lead: Flush immediately with large amounts of water for at least 15 minutes while lifting lids; Seek immediate medical attention if eyes have been exposed directly to acid.
Ingestion Consult physician immediately.

5. FIRE FIGHTING MEASURES

Flash Point NOT APPLICABLE
Auto ignition NOT APPLICABLE
Temperature
Flammable Limits NOT APPLICABLE
Extinguishing Dry chemical, carbon dioxide, water, foam. Do not use water on live electrical circuits.
Media
Special Fire Fighting Procedures Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use full protective equipment (bunker gear) and self-contained breathing apparatus.
Unusual Fire and Explosion Hazard Batteries generate flammable hydrogen gas during charging and may increase fire risk in poorly ventilated areas near sparks, excessive heat, or open flames.

6: ACCIDENTAL RELEASE MEASURES

Protective Measures to be Taken if Material is Released or Spilled Sweep or shovel spilled material and place in a dry, closed approved container for disposal or recycle. Dispose of any nonrecyclable materials in accordance with local, state, provincial or federal regulations.
Waste Disposal Method Dispose of as a hazardous waste. Dispose of in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Handling Do not carry battery by terminals. Do not drop battery, puncture, or attempt to open battery case. Avoid contact with the internal components of a battery.
Storage Store batteries under roof in cool, dry, well-ventilated areas separated from incompatible materials and from activities that may create flames, spark, or heat. Store sealed lead acid batteries at ambient temperature.
Charging: There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Batteries being charged may generate and release flammable

hydrogen gas. Charging space should be ventilated. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.

Other Follow Manufacturers Recommendations regarding maximum recommended currents and operating temperature range. Do not overcharge beyond the recommended upper charging voltage limit. Applying pressure or deforming the battery may lead to disassembly followed by eye, skin and throat irritation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits

US OSHA Specifically Regulated Substances (29 CFR 1910.1001 – 1050)

Ingredient	CAS Number	Type	Value
Lead	7439-92-1	TWA	0.05 mg/m ³

US ACGIH Threshold Limit Values

Ingredient	CAS Number	Type	Value	Form
Lead	7439-92-1	TWA	0.05 mg/m ³	

US NIOSH: Pocket Guide to Chemical Hazards

Ingredient	CAS Number	Type	Value	Form
Separator/Paster Paper Fibrous Glass	65997-17-3	TWA	3 fibers/cm ³ 5 mg/ m ³ 5 mg/ m ³	Fiber Fibers, total dust Fiber Total
Lead	7439-92-1	TWA	0.05 mg/m ³	

International Exposure Limits (mg/m³)

*Chemical & Common Name	Quebec PEV	Ontario OEL	EU OEL
Lead and Lead Compounds (inorganic)	0.05	0.05	0.15 (a)

(a) As inhalable aerosol (b) Thoracic fraction

Biological limit values

ACGIH Biological Exposure Indices

Ingredient	Value	Determinant	Specimen	Sampling Time
Lead	300 µg/l	Lead	Blood	*

* - For Sampling details please see the source document.

Engineering Controls (Ventilation):

Store sealed lead acid batteries at ambient temperature. Never recharge batteries in an unventilated, enclosed space. Do not subject product to open flame or fire. Avoid conditions that could cause arcing between terminals.

Respiratory Protection (NIOSH/MSHA approved):

NONE REQUIRED FOR NORMAL HANDLING OF THE FINISHED PRODUCT.

Skin Protection:

NONE REQUIRED FOR NORMAL HANDLING OF THE FINISHED PRODUCT.

Eye Protection:

NONE REQUIRED FOR NORMAL HANDLING OF THE FINISHED PRODUCT.

Other Protection:

Safety footwear meeting the requirements of ANSI Z 41.1 is recommended when it is necessary to handle the finished product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor Industrial/commercial lead acid battery, without electrolyte. Odorless

Odor Threshold	Not applicable.
pH	Not applicable
Boiling Point	Not applicable.
Melting Point	Not applicable.
Specific Gravity (H ₂ O = 1)	Not applicable.
Flash Point	Not applicable.
Evaporation Rate (Butyl Acetate = 1)	Not applicable.
Vapor Pressure (mm Hg @ 20 ° C)	Not applicable.
Flammability	
Upper/lower flammability or explosive limits	Not applicable.
Vapor Pressure	Not applicable.
Vapor Density	Not applicable.
Relative Density	Not applicable.
Solubility	Insoluble
% Volatile by Weight	Not applicable.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.

10. STABILITY AND REACTIVITY

Stability	This product is stable under normal conditions at ambient temperature.
Conditions to Avoid	Sparks and other sources of ignition; high temperature; over charging.
Incompatibility (materials to avoid)	Lead compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, and reducing agents.
Hazardous Decomposition Products	Lead compounds: Temperatures above the melting point are likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

NOTE: Under normal conditions of use, this product does not present a health hazard. The following information is provided lead exposure that may occur due to container breakage or under extreme conditions such as fire.

ROUTES AND METHODS OF ENTRY

Inhalation	EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE. Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.
Skin Contact	EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE. Not absorbed through the skin.
Skin Absorption	EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.
Eye Contact	EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE. May cause eye irritation.
Ingestion	EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE. Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea and severe cramping. This may lead rapidly to systemic toxicity and must be treated by a physician.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Acute Effects

EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.

Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances and irritability

Chronic Effects

EXPOSURE IS NOT EXPECTED FOR PRODUCT UNDER NORMAL CONDITIONS OF USE.

Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in males and females. Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Lead and its compounds can aggravate some forms of kidney, liver and neurologic diseases.

ADDITIONAL HEALTH DATA

All heavy metals, including the hazardous ingredients in this product, are taken into the body primarily by inhalation and ingestion. Most inhalation problems can be avoided by adequate precautions such as ventilation and respiratory protection covered in Section 8. Follow good personal hygiene to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, smoking or leaving the work site. Keep contaminated clothing out of non-contaminated areas, or wear cover clothing when in such areas. Restrict the use and presence of food, tobacco and cosmetics to non-contaminated areas. Work clothes and work equipment used in contaminated areas must remain in designated areas and never taken home or laundered with personal non-contaminated clothing. This product is intended for industrial use only and should be isolated from children and their environment.

The 19th Amendment to EC Directive 67/548/EEC classified lead compounds, but not lead in metal form, as possibly toxic to reproduction. Risk phrase 61: May cause harm to the unborn child, applies to lead compounds, especially soluble forms.

CARCINOGENICITY

Lead is listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.

IARC Monographs. Overall Evaluation of Carcinogenicity

Lead (CAS 7439-92-1)

2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity

May damage fertility or the unborn child.

Specific target organ

No data available.

toxicity -

single exposure

Specific target organ

Lead: May cause damage to organs (blood, central nervous system) through prolonged or repeated exposure.

toxicity -

repeated exposure

Aspiration hazard

Not classified.

12. ECOLOGICAL INFORMATION

Environmental Fate

Lead is very persistent in soil and sediments. No data on environmental degradation. Mobility of metallic lead between ecological compartments is slow. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants but little bioaccumulation occurs through the food chain. Most studies include lead compounds and not elemental lead

Ecotoxicity

Very toxic to aquatic life with long lasting effects. However, no ecological impacts expected under normal use conditions.

Constituents

Species

Test Results

Inorganic Lead/Lead Compounds (CAS 7439-92-1)

Aquatic

Fish

LC50

Rainbow trout, Donaldson trout
(Oncorhynchus mykiss)

1.17 mg/l, 96 hours

Persistence and Degradability	No data available
Bioaccumulative potential	No data available
Additional Information	No known effects on stratospheric ozone depletion Volatile organic compounds: 0% (by Volume) Water Endangering Class (WGK): NA

13. DISPOSAL CONSIDERATIONS

Waste disposal method	Material should be recycled if possible. Lead-acid batteries are completely recyclable. Dispose waste and residues in accordance with applicable federal, state, and local regulations.
Hazardous waste code	D008: Lead
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or packaging may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note: Transportation requirements do not apply once the battery pack has been installed in a vehicle as part of the vehicle's functional components.

Transportation: Sealed Lead Acid / OPTIMA Battery is not a DOT Hazardous Material

Other: Per DOT, IATA, ICAO, and IMDG rules and regulations, these batteries are exempt from "UN2800" classification as a result of successful completion of the following tests:

- 1.) Vibration tests
- 2.) Pressure Differential Tests
- 3.) Case Rupturing Tests (no free liquids)

GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Not regulated as dangerous goods per 49 CFR 173.159a

AIRCRAFT – ICAO-IATA:

Not regulated as dangerous goods per Special Provision A67

VESSEL – IMO-IMDG:

Not regulated as dangerous goods per exception 238

15. REGULATORY INFORMATION

This product is an article pursuant to 29 CFR 1910.1200 and as such is not subjected to the OSHA Hazard Communication Standard. The information on this SDS is supplied at customer's request for information only.

TSCA

Ingredients listed in the TSCA registry are lead, lead compounds, and sulfuric acid.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Lead (CAS 7439-92-1)	Reproductive toxicity Central nervous system Kidney Blood Acute toxicity
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CERCLA Hazardous Substance List (40 CFR 302.4)

Lead (CAS 7439-92-1)	LISTED
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Superfund Amendment and Reauthorization Act of 1986 (SARA)

Hazard Categories	Immediate Hazard – Yes Delayed Hazard – Yes Fire Hazard – Yes Pressure Hazard – Yes Reactivity Hazard – Yes
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SARA 302 Extremely hazardous substance

Chemical Name	CAS Number	Reportable Quantity	Threshold Planning Quantity	Threshold Planning Quantity – Lower value	Threshold Planning Quantity – upper value
Sulfuric Acid	7664-93-9	1000	1000 lbs.		

SARA 311/312 Hazard Categorization:

EPCRA Section 312 Tier Two reporting is required for non-automotive batteries if lead is present in quantities of 10,000 lbs. or more. For more information consult 40 CFR 370.10 and 40 CFR 370.40

SARA 313 EPCRA Toxic Substances:

40 CFR section 372.38 (b) states: If a toxic chemical is present in an article at a covered facility, a person is not required to consider the quantity of the toxic chemical present in such article when determining whether an applicable threshold has been met under § 372.25, § 372.27, or § 372.28 or determining the amount of release to be reported under § 372.30. This exemption applies whether the person received the article from another person or the person produced the article. However, this exemption applies only to the quantity of the toxic chemical present in the article.

SARA 313 (TRI Reporting)

Chemical Name	CAS Number	% by weight
Lead	7439-92-1	63 - 91

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Lead (CAS 7439-92-1)

Safe Drinking Water Act (SDWA)

Not regulated

US State Regulations

US. Massachusetts RTK – Substance List

Lead (CAS 7439-92-1)

US New Jersey Worker and Community Right-to-know Act

Lead (CAS 7439-92-1)

Separator/Paster Paper Fibrous Glass (CAS 65997-17-3)

US Pennsylvania Worker and Community Right-to-know Law

Lead (CAS 7439-92-1)

US Rhode Island RTK

Lead (CAS 7439-92-1)

US. California Proposition 65

WARNING: This product contains chemicals known to the State of California to cause cancer.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

*Battery companies not party to the 1999 consent judgment with Mateel Environmental Justice Foundation should include a Proposition 65 Warning that complies with the current version of Proposition 65.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Lead (CAS 7439-92-1)

International Inventories

Country(s) or Region	Inventory Name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

* A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

CANADIAN ENVIRONMENTAL PROTECTION ACT: These products are manufactured articles and are exempt from regulation.

CANADIAN WHMIS CLASSIFICATION: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Issue Date: 02/17/2017

US Military National Stock Number (NSN)

Model Number	P/N	NSN
34/78	8004-003	6140-01-374-2243
34	8002-002	6140-01-378-8232
34R	8003-151	6140-01-475-9357
34VX	8008-158	6140-01-534-6466
25	8025-160	
35	8020-164	
75/25	8022-091	6140-01-475-9361
78	8078-109	
850/6 – 1050 SLI	8010-044	6140-01-475-9414
DS46B24R	8171-767	
850/6 – 950 (DC)		
D51	8071-167	6140-01-523-6288
D51R	8073-167	6140-01-529-7226
D35	8040-218	
D75/25	8042-218	
D34	8012-021	6140-01-450-0141
D34/78	8014-045	6140-01-441-4272
D27F	8037-127	6140-01-600-5785
D31T	8050-160	6140-01-457-5469
D31A	8051-160	6140-01-502-4973
34M	8006-006	6140-01-441-4280, 6140-01-526-2605
D34M	8016-103	6140-01-475-9355
D27M	8027-127	6140-01-589-0622
D31M	8052-161	6140-01-502-4405

Disclaimer

Clarios cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.