

Material Safety Data Sheet

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Product Name: (Chemicals name or Merchandise Name):			
CS, EF, 1SF-H Type Stationary Lead-Acid Battery			
Identification of substance			
Identification of single- or mixed substance product: Mixed-substance product			
Parts	Material	Approximate%_by wt.	CAS Number
Plate	Lead (Pb)and LeadCompound	50-65%	7439-92-1(Pb)
	Antimony (Sb)	1-2%	7440-36-0
	Arsenic (As)	0.1% or below	7440-38-2
	Barium compound	0.2% or below	7440-39-3(Ba)
Electrolyte	abt. 30% dilute sulfuric acid (H ₂ SO ₄)	30-40%	7664-93-9
Battery container & Cover	AS resin (synthetic resin) ABS resin (synthetic resin)	4-8%	9003-56-9(ABS)
Spacer	PS/ PVC resin() () CS-1000 over, EF TYPE)	2-3%	-
Separator	PE	0.2 ~ 0.5%	-
Other resin parts	PP, silica, Epoxy , Rubber, Glass	1-5%	-
Other metal parts	Brass etc.	1% or below	-
Classification of Hazardousness and Poisonousness			
Classification name	Classification standard not applicable to batteries.		
Hazardousness	Charging a battery generates hydrogen and oxygen gases. Exposure of fire to them may catch a fire, resulting in an explosion.		
Poisonousness	Exposure of electrolyte to skin or an eye may result in a burn or a loss of eyesight.		
Effect on Environment	Highly concentrated electrolyte may adversely affect living things such as animals and plants.		
Emergency Measures			
When electrolyte is inhaled:	Move to a place full of fresh air and have immediate medical treatment.		
When electrolyte is swallowed:	Immediately rinse the mouth with a large quantity of fresh water, and drink another large quantity of fresh water. Then, have immediate medical treatment.		
When electrolyte is attached to skin:	Immediately wash it down with a large quantity of water, and thoroughly wash the skin with soap. If there is a fear of burn, have immediate medical treatment.		
When electrolyte contacts the eyes	Immediately flush the eye sufficiently with water, and have immediate medical treatment.		

Action at the Time of Fire		
Fire fighting method	Extinguish a fire using a fire extinguisher of dry powder agent, foam agent or non-combustible gas.	
Action at The Time of Electrolyte Leak or Outflow		
Neutralize the leaked electrolyte with soda bicarbonate or slaked lime, then wash it down. (At that time, be sure to wear protective goggles, gloves, and boots.)		
Handling and Storing Precautions		
Handling:	<ul style="list-style-type: none"> • Do not disassemble or modify the battery, nor short it between the terminals. • Do not put a fire close to the battery, or throw it into a fire. • Handle batteries as heavy objects. • With vents provided in a cubicle, for example, charge the battery in a well ventilated room. 	
Storing:	Choose a place that is not exposed to high temperatures, high humidity, wind and rain, direct sunlight, fire, poisonous gasses, droplets, dust generation or ingress, or submersion.	
Exposure Inhibiting Device		
. Not applicable to batteries		
Physical/ Chemical Properties		
Not applicable to batteries.		
Materials (as example)	<u>Dilute sulfuric acid</u> (for 1.3 of specific gravity)	<u>Lead</u>
• Outer appearance	Transparent liquid	Silver white solid
• Specific gravity	1.3	11.3
• Boiling point	110	1,740
• Melting point	-40	327
• Freezing point	-56.4	—
• Vapor pressure	3.17 kPa (for 30% concentration at 30)	0.1 kPa (at 25)
Materials (as example)	<u>AS resin</u>	<u>ABS resin</u>
• Outer appearance	Transparent solid	Solid
• Specific gravity	1.06-1.08	1.02-1.10
• Boiling point	-	-
• Melting point	No specific point, but softens gradually in wide range of temperature. (about 120)	No specific point, but softens gradually in wide range of temperature. (about 130-150)
Hazardousness information		
As per "Classification of Hazardousness and Poisonousness" above.		

Poisonousness information	
	As per "Classification of Hazardousness and Poisonousness" above.
Environmental information	
	As per "Classification of Hazardousness and Poisonousness" above.
Disposing precautions	
	Used batteries shall be recycled for reuse in accordance with relative national law and regulations.
Transporting precautions	
	Try to avoid mingling batteries with other substances. Handle with care so that no electrolyte leak occurs by overturning or dropping a battery.
Applicable laws and regulations	
• Poison and Deleterious Substance Control Law:	Electrolyte falls under "Deleterious Substance Category".
• Labor Safety & Hygiene Law:	Lead falls under "Class 3 Substance" in Specific Chemical Substance Category.
• Hazardous Materials Storage and Ship Transportation Regulations:	Electrolyte falls under "Corrosive Substance Category".
• Fire Services Act:	Terminal materials fall under "Substances Inhibiting Fire Fighting".
Law on transport	
	<p>(Shipping) These regulations also classify these types of batteries as a hazardous material. The batteries must be packed according to IMDG code pages 8120 and 8121. The batteries correspond to TRANSPORT OF DANGEROUS GOODS of UN2794.</p> <p>(Air) These regulations also classify these types of batteries as a hazardous material. The batteries must be packed according to IATA Packing Instruction 800. Information of IATA is attached .</p> <p>(Land transportation In U.S.A and Canada) The transportation of wet and moist charged (moist active) batteries within the continental United States is regulated by the U.S.DOT through the Code of Federal Regulations, Title 49 (CFR 49). These regulations classify these types of batteries as a hazardous material Refer to CFR 49,173,159 for more details pertaining to the transportation of wet and moist batteries.</p>
Applied Standard:	
	JIS C 8704-1, IEC 60896-1

TSCA		
Ingredients in Yuasa batteries are listed in the TSCA registry as follows:		
Components	CAS number	TSCA status
Electrolyte		
Sulfuric Acid (H ₂ SO ₄)	7664-93-9	listed
Inorganic lead compound:		
lead (Pb)	7439-92-1	listed
Lead oxide (PbO ₂)	1317-36-8	listed
Lead sulfate (PbSO ₄)	7446-14-2	listed
Antimony (Sb)	7440-36-0	listed
Arsenic (As)	7440-38-2	listed
Tin (Sn)	7440-31-5	listed
California prop 65		
Battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.		
This information is accurate to the best of GS Yuasa's knowledge or obtained from sources believed by GS Yuasa to be accurate. Before using any product, read all warnings and directions on the level.		
For additional information concerning GS Yuasa products or questions concerning the content of this MSDS please contact GS Yuasa representative.		