

HAZARD RATING



TELEDYNE BATTERY PRODUCTS

MATERIAL SAFETY DATA SHEET

DRY CHARGED BATTERY

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSON PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN THIS USE OF THE MATERIAL

SECTION I: PRODUCT IDENTIFICATION

MANUFACTURER'S NAME:	TELEDYNE BATTERY PRODUCTS
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TELEPHONE:	909-793-3131
24-HOUR EMERGENCY CONTACT:	INFOTRAC 1-800-535-5053
PRODUCT NAME:	BATTERY, ELECTRIC STORAGE DRY
TRADE NAME:	TELEDYNE BATTERY, GILL AIRCRAFT BATTERY, CENTURION, BIG BEAM, TELSTAR, SILTRON, AIR TRACTOR AND SCHWEIZER
SYNONYMS:	GE-50, GE-51, GE-54, G-25, G-25M, G-35, G-35M, G-88, G-240, G-241, G-242, G-243, G-243W, G-244, G-245, G-246, G-246AT, G-247, G-638, G-639, G-6381, G-640, G-641, M83769/1-1, M83769/2-1, M83769/3-1, M83769/4-1, M83769/5-1, M83769/6-1, 2HN (MS35000), 4HN (MS5047), 6TL (MS52149), T-1100, T-1100L, T-2200, T-2200L, T-6200, T-6200L, SUPER TELSTAR 12, TELSTAR 8, TELSTAR 12, L640, L6100, L6100S, L-1260, 12B60, 12B80, 12B80H, 12B90, 12B90H, L60, STARPOWER-25, STARPOWER-35, CENT-350, CENT-3100, CENT-660, CENT-680, CENT-680H, CENT-690, CENT 690H
CHEMICAL FAMILY:	LEAD AND LEAD COMPONENTS
FORMULA:	NOT APPLICABLE
DOT DESCRIPTION:	NOT SUBJECT TO DOT REQUIREMENTS.
INTENDED USE:	ELECTRIC STORAGE BATTERIES FOR AIRCRAFT, EMERGENCY LIGHTING, MARINE, GROUND SUPPORT AND ENGINE STARTING EQUIPMENT. CONTAINS NO ELECTROLYTE. MATERIAL SAFETY DATA SHEET FOR LEAD-ACID BATTERY APPLIES WHEN FILLED AND SERVICED WITH ELECTROLYTE.

SECTION II: HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	CAS #	WEIGHT %	OSHA PEL	ACGIH TLV	OSHA ACTION LEVEL
LEAD AND LEAD COMPOUNDS	7439-92-1	<95	50 µg/m ³	0.15 mg/m ³	30 µg/m ³
ANTIMONY	7440-36-0	<1.1	0.5 mg/m ³	0.5 mg/m ³	Not Applicable
ARSENIC	7440-38-2	<0.1	10 µg/m ³	0.2 mg/m ³	5 µg/m ³
BARIUM SULFATE	7727-43-7	<0.2	5 mg/m ³ **	10 mg/m ³	Not Applicable
CALCIUM COMPOUNDS	7440-70-2	<0.1	5 mg/m ³ *	2 mg/m ³ *	Not Applicable
CARBON BLACK EXTRACTS	1333-86-4	<0.1	3.5 mg/m ³	3.5 mg/m ³	Not Applicable
TIN COMPOUNDS	7440-31-5	<0.3	2 mg/m ³	2 mg/m ³	Not Applicable

* As CaO

** Respirable

SECTION III: PHYSICAL DATA

BOILING POINT	LEAD	3164 °F (1740 °C) @ 760 mm Hg
MELTING POINT	LEAD	621 °F (327.43 °C)
	POLYPROPYLENE	320 °F (160 °C)
SPECIFIC GRAVITY	LEAD	11.34
VAPOR PRESSURE	LEAD	NEGLIGIBLE
VAPOR DENSITY	LEAD	N/A
SOLUBILITY	LEAD	INSOLUBLE IN WATER
% VOLATILES BY VOL	LEAD	NEGLIGIBLE
%EVAPORATION RATE	LEAD	N/A
PH	LEAD	NA
APPEARANCE AND ODOR	NO ODOR. BATTERY CASE IS PINK, CLEAR, OFF-WHITE, OR BLACK.	

SECTION IV: HEALTH HAZARD INFORMATION

ROUTES OF EXPOSURE	
INHALATION	LEAD DUST, VAPOR OR FUME MAY BE ABSORBED BY THE RESPIRATORY SYSTEM AND CAN RESULT IN BOTH ACUTE AND CHRONIC OVEREXPOSURE AS WELL AS RESPIRATORY IRRITATION.
SKIN CONTACT	LEAD IS NOT READILY ABSORBED THROUGH THE SKIN.
EYE CONTACT	LEAD DUST, VAPOR OR FUME MAY CAUSE IRRITATION.
INGESTION	LEAD DUST, VAPOR OR FUME MAY BE ABSORBED THROUGH THE DIGESTIVE SYSTEM AND CAN RESULT IN BOTH ACUTE AND CHRONIC OVEREXPOSURE.
EFFECTS OF OVEREXPOSURE	
ACUTE OVEREXPOSURE	ACUTE UNTREATED OVEREXPOSURE TO LEAD MAY LEAD TO WEAKNESS, VOMITING, LOSS OF APPETITE, UN-COORDINATED BODY MOVEMENTS, CONVULSIONS, STUPOR AND POSSIBLY COMA.
CHRONIC OVEREXPOSURE	CHRONIC UNTREATED EXPOSURE TO LEAD MAY CAUSE WEAKNESS, INSOMNIA, HYPERTENSION, AND SLIGHT IRRITATION TO SKIN AND EYES, METALLIC TASTE IN MOUTH, ANEMIA, CONSTIPATION, HEADACHE, MUSCLE AND JOINT PAINS, NEUROMUSCULAR DYSFUNCTION, POSSIBLE PARALYSIS, ENCEPHALOPATHY AND PNEUMOCONIOSIS. LEAD EXPOSURE CAN POSE RISK TO DEVELOPING FETUSES AND MAY ALSO IMPAIR THE REPRODUCTIVE SYSTEMS IN BOTH MEN AND WOMEN. DAMAGE TO THE KIDNEYS, HEMATOPOIETIC AND/OR CENTRAL NERVOUS SYSTEM MAY OCCUR.

CARCINOGENICITY	IARC	NTP	OSHA
LEAD	X		X
ARSENIC	X	X	X

EMERGENCY AND FIRST AID PROCEDURES	
EYES	(DRY OXIDE) WASH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, LIFTING THE LOWER AND UPPER LIDS CONTINUOUSLY. GET MEDICAL ATTENTION.
SKIN	NOT A DIRECT ROUT OF ENTRY.
INHALATION	REMOVE EMPLOYEE FROM AREA OF EXPOSURE. GET IMMEDIATE MEDICAL ATTENTION.
INGESTION	GET IMMEDIATE MEDICAL ATTENTION.

SECTION V: FIRE AND EXPLOSION DATA

FLASH POINT	N/A FOR LEAD	675 °F FOR POLYPROPYLENE CASE
AUTO IGNITION TEMPERATURE	N/A	
FLAMMABLE LIMITS IN AIR (% BY VOL)	N/A	
EXTINGUISHING MEDIA	USE HALON, DRY CHEMICAL EXTINGUISHER. BATTERY CASE WILL BURN.	
SPECIAL FIRE FIGHTING PROCEDURES	USE OF WATER IN EXTINGUISHING BURNING BATTERIES MAY CAUSE SPLATTERING DUE TO THE PRESENCE OF MOLTEN LEAD.	
UNUSUAL FIRE AND EXPLOSION HAZARD	WHILE BATTERY IS BEING CHARGED, HYDROGEN GAS IS PRODUCED. BATTERY MAY EXPLODE IF HYDROGEN GAS IS TRAPPED INSIDE THE BATTERY CASE. KEEP IGNITION SOURCES AWAY.	

SECTION VI: REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY	NONE
INCOMPATIBILITY	CONTACT OF LEAD WITH STRONG OXIDIZERS MAY LIBERATE HYDROGEN GAS.
HAZARDOUS DECOMPOSITION PRODUCTS	NONE
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION	WILL NOT OCCUR

SECTION VII: SPILL OR LEAK PROCEDURES

SPILLED OR RELEASED	SHOULD A BATTERY BREAK OPEN, ISOLATE THE AREA. PICK UP AND CONTAINERIZE ALL BATTERY PARTS AND MATERIALS. LIMIT PERSONAL EXPOSURE WITH GLOVES, EYE AND FACE PROTECTION. WHEN A BATTERY IS BEING FILLED WITH SULFURIC ACID ELECTROLYTE, ISOLATE THE AREA SHOULD A BATTERY BREAK OPEN. ELECTROLYTE SHOULD BE ABSORBED WITH A NON-ORGANIC TYPE ABSORBENT SUCH AS DRY SAND OR EARTH. AVOID DILUTION WITH WATER. LEAD SPILLED FROM THE BATTERY SHOULD BE HEPA VACUUMED OR WET MOPPED, DO NOT DRY SWEEP OR USE COMPRESSED AIR.
WASTE DISPOSAL METHODS	BATTERY PARTS MAY BE RECYCLED BY AN EPA-PERMITTED SECONDARY LEAD SMELTING FACILITY OR DISPOSED OF AS HAZARDOUS WASTE PURSUANT TO RCRA REQUIREMENTS.

SECTION VIII: SPECIAL PROTECTION INFORMATION

SPECIFIC HANDLING AND PRECAUTION INSTRUCTIONS	
HANDLING AND STORAGE	EXERCISE CAUTION IN HANDLING AND STORAGE DUE TO WEIGHT OF UNITS.
OTHER PRECAUTIONS	USE CAUTION WHEN FILLING UNITS WITH ELECTROLYTE (BATTERY ACID, DILUTE SULFURIC ACID). WEAR ACID RESISTANT PLASTIC OR RUBBER GLOVES, EYE PROTECTION, APRON AND BOOTS. MATERIAL SAFETY DATA SHEET FOR LEAD-ACID BATTERY APPLIES WHEN FILLED WITH SULFURIC ACID ELECTROLYTE.
VENTILATION REQUIREMENTS	BATTERY CHARGING AREAS MUST BE ADEQUATELY VENTILATED TO PREVENT HAZARDOUS CONCENTRATIONS OF FLAMMABLE GAS OR ACID MIST. DESIGN CRITERIA FOR VENTILATION SYSTEMS ARE CONTAINED IN THE INDUSTRIAL VENTILATION MANUAL PUBLISHED BY THE ACGIH.
SPECIFIC PERSONAL PROTECTIVE EQUIPMENT	
RESPIRATORY	UNDER NORMAL CONDITIONS OF USE RESPIRATORY PROTECTION IS NOT REQUIRED. HOWEVER, SHOULD CONDITIONS ARISE WHERE RESPIRATORS ARE NEEDED, USE ONLY NIOSH/MSHA RESPIRATORS APPROVED FOR DUST, FUME AND MIST.
EYE	CHEMICAL GOGGLES, FULL FACE SHIELD.
SKIN	GLOVES APPROVED FOR SULFURIC ACID.
OTHER	ACID RESISTANT APRON.

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

SHOULD A BATTERY BREAK OPEN AND A LEAD SPILL OCCURS, PRECAUTIONS SHOULD BE TAKEN TO PREVENT LEAD DUST FROM BECOMING AIR BORNE. INDIVIDUALS SHOULD WEAR RESPIRATORY PROTECTION, PROTECTIVE CLOTHING, RUBBER GLOVES AND EYE PROTECTION IF CONDUCTING A LEAD SPILL CLEAN-UP.

AVOID THE USE OF NON-INSULATED TOOLS. IF THEY ARE REQUIRED, TAKE CARE NOT TO MAKE A CONNECTION BETWEEN THE TWO BATTERY TERMINALS AS SEVERE SPARKING MAY OCCUR WHICH COULD RESULT IN AN EXPLOSION. RINGS, METAL WATCH BANDS, NECKLACES AND OTHER JEWELRY SHOULD BE REMOVED WHILE SERVICING BATTERIES.

SUFFICIENT VENTILATION SHOULD BE PROVIDED IN ALL WORK AREAS TO PREVENT A BUILD UP OF DANGEROUS GASES. IF THE BATTERY ROOM IS AIR CONDITIONED AS PART OF AN OVERALL BUILDING SYSTEM, THE EXHAUST AIR FROM THE BATTERY ROOM SHOULD NOT BE RETURNED TO THE AIR DISTRIBUTION SYSTEM. THE ROOM SHOULD HAVE ITS OWN EXHAUST SYSTEM CONNECTED DIRECTLY TO OUTSIDE AIR. HYDROGEN AND OXYGEN GASES ARE PRODUCED DURING NORMAL BATTERY OPERATION, ESPECIALLY DURING CHARGING. HYDROGEN GAS IS LIGHTER THAN AIR, COLORLESS, ODORLESS AND TASTELESS, THEREFORE IT IS DIFFICULT TO DETECT WITHOUT SPECIAL EQUIPMENT. ALWAYS ASSUME THAT SMALL AMOUNTS OF GASES ARE PRESENT AND TAKE ALL NECESSARY PRECAUTIONS.

SECTION X: OTHER WARNINGS

TBP NOTIFICATION

THIS PRODUCT DOES NOT CONTAIN THE ELEMENT MERCURY. THIS IS A **MERCURY-FREE PRODUCT**.

PROPOSITION 65 WARNING

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.**

SARA TITLE III

THE CHEMICALS LISTED BELOW ARE TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

MATERIAL OR COMPONENT	CAS #	WEIGHT %
LEAD AND LEAD COMPOUNDS	7439-92-1	<95
ANTIMONY	7440-36-0	<1.1
ARSENIC	7440-38-2	<0.1

THIS LEAD-ACID BATTERY IS CLASSIFIED AS A MANUFACTURED ARTICLE (40 CFR 372.3) AND THE HAZARDOUS MATERIALS (LEAD, ANTIMONY, ARSENIC AND NICKEL COMPOUNDS) CONTAINED WITHIN ARE NOT RELEASED UNDER NORMAL CONDITIONS OF USE. SINCE THESE CHEMICALS ARE NOT RELEASED DURING NORMAL USE THEY ARE EXEMPT FROM THE REPORTING REQUIREMENTS CONTAINED IN 40 CFR PART 372 SUBPART B. HOWEVER, SULFURIC ACID MAY BE RELEASED INTO THE ENVIRONMENT IF A BATTERY BREAKS AND THEREFORE MAY NOT BE EXEMPT FROM THE REPORTING REQUIREMENTS OF SARA TITLE III. SEE EXEMPTIONS, 40 CFR 372.38 (b).

THIS INFORMATION SHOULD BE INCLUDED IN ALL MSDS' THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL.

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