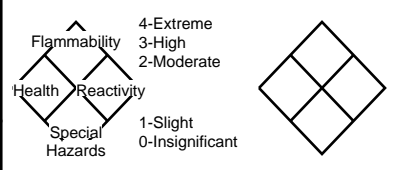


MATERIAL SAFETY DATA SHEET

POLAROID CORPORATION
OFFICE OF HEALTH, SAFETY, & ENVIRONMENTAL AFFAIRS
1265 MAIN STREET - WALTHAM, MA 02254
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Data Sheet No. M-0658	Revision VI	NFPA FIRE HAZARD SYMBOL
		
Compiled by: E. Karger	Issue Date: 08-JUL-1999	

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

COMMON NAMES: POLAROID POLAPULSE BATTERY (P100); POLAROID P80, P87, P91 BATTERIES

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY: MIXTURE

INGREDIENTS

Please note that chemicals present in the mixture in concentrations below 1% which are considered not to be a hazard may not be included in the list of ingredients

Material	%	MSDS#	CAS#	PL# /Comments
MANGANESE DIOXIDE	18.30-20.50		001313-13-9	
GRANULATED ZINC; STABILIZED ZINC POWDER	8.20-9.10		007440-66-6	
LEAD	0.013-0.014		007439-92-1	(as a component of CPVC)
ZINC OXIDE	0.70-0.80		001314-13-2	
AMMONIUM CHLORIDE	0.50-0.60		012125-02-9	
CARBON BLACK	3.70-4.10		001333-86-4	
ZINC CHLORIDE SOLID	6.40-7.20		007646-85-7	
ALUMINUM	6.90-7.70		007429-90-5	

INGREDIENTS (CONT.)

Material	%	MSDS#	CAS#	PL# /Comments
WATER	18.90-21.10		007732-18-5	
POLYVINYL CHLORIDE	8.80-9.80		009002-86-2	
CELLOPHANE	2.40-2.60		000000-00-0	
POLYPROPYLENE	0.90		009003-07-0	(not in P-91)
PAPERS	5.80-14.70		000000-00-0	Coated with adhesives
GLASSINE	1.50-1.70		000000-00-0	.
CONDUCTIVE POLYVINYL CHLORIDE FILM (CPVC)	7.50-8.40		000000-00-0	

SECTION III - HAZARDS IDENTIFICATION

Hazard Signal Word

CAUTION

Hazards

Paste Causes Eye Irritation
Paste May be Harmful if Swallowed

Precautionary Measures

Do not get paste in eyes
Do not cut batteries

INGREDIENT EXPOSURE LIMITS

MANGANESE DIOXIDE

OSHA Permissible Exposure Limit:	PEL/TWA	5	mg/m3	ceiling (as Mn)
ACGIH	TLV/TWA	0.20	mg/m3	(as Mn)
IDLH	IDLH	500	mg/m3	Mn

ZINC OXIDE

OSHA Permissible Exposure Limit:	PEL/TWA	5	mg/m3	(fume)
	STEL	10	MG/M3	(FUME)
ACGIH	TLV/TWA	5	MG/M3	(Fume) 10 mg/m3 (Dust)
	STEL	10	mg/m3	(fume)
IDLH	IDLH	500	mg/m3	

INGREDIENT EXPOSURE LIMITS (CONTINUED)

AMMONIUM CHLORIDE

OSHA Permissible Exposure Limit:	PEL/TWA	10	mg/m3	(fume)
	STEL	20	mg/m3	(fume)
ACGIH	TLV/TWA	10	mg/m3	(fume)
	STEL	20	mg/m3	(fume)

CARBON BLACK

OSHA Permissible Exposure Limit:	PEL/TWA	3.50	mg/m3	
ACGIH	TLV/TWA	3.50	mg/m3	

ZINC CHLORIDE SOLID

OSHA Permissible Exposure Limit:	PEL/TWA	1	mg/m3	(fume)
	STEL	2	mg/m3	(fume)
ACGIH	TLV/TWA	1	ppm	(fume)
	STEL	2	mg/m3	(fume)
IDLH	IDLH	50	mg/m3	

ALUMINUM

OSHA Permissible Exposure Limit:	PEL/TWA	5	mg/m3	(Respirable fraction); 15 mg/m3 (Total Dust)
ACGIH	TLV/TWA	10	mg/m3	(Metal Dust)

SECTION IV - FIRST AID MEASURES

EYE CONTACT:

In case of eye contact with paste, immediately flush eyes with plenty of water for at least fifteen minutes; seek Medical attention.

SKIN CONTACT:

In case of skin contact with paste, flush affected area with plenty of water.

INHALATION:

If inhaled, remove to fresh air; if still having difficulty breathing, seek Medical attention.

INGESTION:

If paste is swallowed, seek Medical attention.

SECTION V - FIRE FIGHTING MEASURES

Flash Point: Not applicable

Autoignition Temperature: Not applicable

Recommended Fire Extinguishing Media:

Water

Special/Unusual Fire Fighting Procedures:

None. Recognize, however, that all fires release hazardous products of combustion, and exposure to flames and smoke should be avoided to the greatest possible extent.

POLAROID POLAPULSE BATTERY (P100); POLAROID P80, P87, P91 BATTERIES

SECTION VI - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Not applicable

SECTION VII - HANDLING AND STORAGE

Not Available

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

RECOMMENDED VENTILATION:

Not normally required.

RESPIRATORY PROTECTION:

Not normally required.

EYE PROTECTION:

Not normally required.

SKIN PROTECTION:

Not normally required.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Thin flat object containing electrochemical battery paste

Melting Point:	ND
Boiling Point:	ND
Specific Gravity(H₂O=1):	ND
% Solubility in Water:	ND
Vapor Density (AIR=1):	ND
% Volatiles by volume:	ND
Vapor Pressure:	ND
Evaporation Rate:	ND
pH:	4 - 5 (for paste)
Pour Point:	ND
Softening Point:	ND
Viscosity:	ND
Bulk Density:	ND
Surface Tension:	ND
Log Kow:	ND

SECTION X - STABILITY AND REACTIVITY

Hazardous Reactivity:

Compound is considered stable.

DO NOT CUT BATTERIES.

The scissors will temporarily short the cells, small sparks and slight heating will occur and paste will adhere to the scissors.

SECTION XI - TOXICOLOGICAL INFORMATION

INHALATION:

Not rated acutely toxic (for paste)

SKIN CONTACT:

Not a skin irritant (for paste)

SKIN ABSORPTION:

Not likely to be absorbed (for paste)

EYE:

Moderate irritant (for paste)

INGESTION:

Slightly acutely toxic (for paste)

Effects of Acute Overexposure:

None currently known.

Effects of Chronic Overexposure:

None currently known.

Contains 3.7-4.1% carbon black, a substance which is considered to be a POSSIBLE CANCER HAZARD-"There is sufficient evidence for carcinogenicity to animals, inadequate evidence for carcinogenicity to humans."-Ref.-IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.-Vol. 65, 1996. Chronic inflammation, lung fibrosis, and lung tumors have been found in studies in rats experimentally exposed, for long periods of time, to excessive concentrations of carbon black and other insoluble dust particles which overwhelm the lung clearance mechanisms. The researchers who conducted these tests believe that these conditions most likely result from the massive accumulation of small dust particles in the lung, the "dust overload phenomenon", rather than from a specific chemical effect of the dust particles. Such effects occur only when the lungs are overloaded with an excess of small particles. They are unlikely to result from workplace exposures to carbon black at or below the TLV. Human studies have not found that workplace exposures to carbon black at or below the TLV cause these effects. In the professional opinion of our consulting toxicologist, uses of carbon black that involve aqueous dispersions and pastes do not pose carcinogenic risks. Therefore, there need be no cancer related concerns for such uses. While caution is appropriate with dry powder forms of certain carbon blacks, in the absence of such exposure conditions and for an aqueous mixture no harm is likely to result.

SECTION XII - ECOLOGICAL INFORMATION

Not Available

SECTION XIII - DISPOSAL CONSIDERATIONS

Product is not classified or regulated under U.S. federal law as "RCRA Hazardous".
Product is not classified or regulated under EU Directives as "hazardous".

SECTION XIV - TRANSPORT INFORMATION

OTHER D.O.T. INFORMATION

Product not regulated.

SECTION XV - REGULATORY INFORMATION

All ingredients are listed on the TSCA inventory
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Product Regulations (CPR) and the MSDS contains all the information required by the CPR.

SECTION XVI - OTHER INFORMATION

Contact with battery paste does not occur unless battery is intentionally cut open.

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Energy normally remains in the battery even after the film has been expended. CONTACT OF TERMINALS WITH CONDUCTIVE MATERIALS MAY CAUSE SHORTING. THIS POSSIBILITY CAN BE AVOIDED BY PLACING THE PULL TAB OVER ONE OF THE TERMINALS.

Revision Information

Revised Sections Since Last Version:

Section I - Product & Company Identification

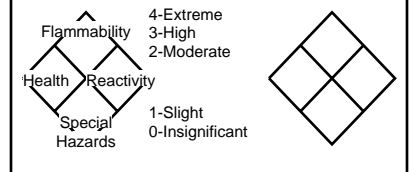
REVISION DATE: 08-JUL-1999

REPLACES SHEET DATED:

09-JUN-1998

COMPLETED BY: Polaroid Corp. Office of Health, Safety, & Environmental Affairs

This data is for guidance and is believed accurate as of the date of issue hereof. It is based upon information and tests believed to be reliable but suitability for any particular use should be confirmed by the user's own tests. The advice contained in this data sheet is given and accepted at the user's risk and Polaroid makes no guarantee of results and assumes no obligation or liability in connection herewith.

Drum Label Information**HAZARD SIGNAL WORD****CAUTION****HAZARDS**

Paste Causes Eye Irritation
Paste May be Harmful if Swallowed

PRECAUTIONARY MEASURES

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Do not cut batteries

EMERGENCY AND FIRST AID PROCEDURES

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In case of skin contact with paste, flush affected area with plenty of water.

If inhaled, remove to fresh air; if still having difficulty breathing, seek Medical attention.

If paste is swallowed, seek Medical attention.

SPILL CONTROL:

Not applicable

OTHER D.O.T. INFORMATION

Product not regulated.