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Version: V1.0

MSDS

MATERIAL SAFETY DATA SHEET

Prepared For : NAVAC Inc.

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NAVAC
Empowering you to work smarter

Material Safety Data Sheet

Section 1-Chemical Product and Company Identification

Product Name	Vacuum Gauge(Built-in Li-polymer battery YJ113450 3.7V 2000mAh 7.4Wh)
Model	NMV1S VMV1S
Trade Mark	N/A
Ratings	3.7V
Manufacturer	NAVAC Inc.
Manufacturer address	1099 Wall Street West, Suite 179 Lyndhurst, NJ 07071
Emergency Telephone	0576-86992919
Fax	0576-86992923

Section 2- Composition Information

Chemical Composition	CAS No.	Weight (%)	Trade Secret
Lithium cobaltate	12190-79-3	15 - 40	*
Graphite	7782-42-5	10 - 30	*
Phosphate(1-), hexafluoro-, lithium	21324-40-3	10 - 30	*
Copper	7440-50-8	7-13	*
Aluminium	7429-90-5	5-10	*
Nickel	7440-02-0	1-5	*

" * " The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 3- Hazards Identification

Emergency overview:	N/A
Classification according to GHS	Not a dangerous substance according to GHS
Label elements:	
Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable
Hazard statement(s)	Not Applicable
Precautionary statement(s):	
Prevention	Not Applicable

Response	Not Applicable
Disposal	Not Applicable
Environmental hazards:	No relevant information
Important symptoms:	See section 11 for more information

Section 4- First Aid Measures

Eye contact	Flush eyes with plenty of water for least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin contact	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
Inhalation	Remove from exposure and move to fresh air immediately. Use oxygen if available.
Ingestion	Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.

Section 5- Fire Fighting Measures

Flash Point	N/A
Auto-Ignition Temperature	N/A
Extinguishing Media	H_2O, CO_2
Special Fire-Fighting Procedures	Self-contained breathing apparatus
Unusual Fire and Explosion Hazards	Cell may vent when subjected to excessive heat-exposing battery contents
Hazardous Combustion Products	Carbon monoxide, carbon dioxide, lithium oxide fumes.

Section 6- Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:
If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

Environment precautions:
Do not allow product to reach sewage system or any water source.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:
If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

Section 7- Handling and Storage	
Handling	The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.
Storage	Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.
Other Precautions	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.
Section 8- Exposure Controls/Personal Protection	
Engineering Controls	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place.
Personal Protective Equipment	Respiratory Protection: Not necessary under normal conditions. Skin and body Protection: Not necessary under normal conditions, Wear suitable protective clothing and gloves if handling an open or leaking battery. Hand protection: Wear suitable gloves if handling an open or leaking battery. Eye Protection: Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery.
Other Protective Equipment	Have a safety shower and eye wash fountain readily available in the immediate work area.
Hygiene Measures	Do not eat, drink, or smoke in work area. Maintain good housekeeping.
Section 9- Physical and Chemical Properties	
Form	Solid
Color	Silver
Odour	Not Applicable
pH	Not Applicable
Melting point/freezing point	Not Applicable
Boiling Point and Boiling range	Not Applicable
Flash Point	Not Applicable

Upper/lower flammability or explosive limits	Not Applicable
Vapor Pressure	Not Applicable
Vapor Density	Not Applicable
Relative density	Not Applicable
Solubility in Water	Not Applicable
Auto-ignition temperature	Not Applicable
Decomposition temperature	Not Applicable
Evaporation rate	Not Applicable
Flammability (soil, gas)	Not Applicable
Viscosity	Not Applicable
Section 10- Stability and reactivity	
Stability	The product is stable under conditions described Section 7
Conditions to Avoid	Heat above 70°C or incinerate. Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions.
Incompatible Materials	Oxidizing agents, acid, base.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, lithium oxide fumes.
Possibility of Hazardous Reaction	Not Applicable
Section 11 – Toxicological Information	
Irritation	Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.
Sensitization	Not Applicable
Neurological Effects	Not Applicable
Teratogenicity	Not Applicable
Reproductive Toxicity	Not Applicable
Mutagenicity (Genetic Effects)	Not Applicable
Toxicologically Synergistic Materials	Not Applicable
Section 12- Ecological Information	

Ecological Toxicity	Not Applicable
Mobility in soil	Not Applicable
Persistence and Degradability	Not Applicable
Bioaccumulation potential	Not Applicable
Other Adverse Effects	Not Applicable

Section 13- Disposal Considerations

Product disposal recommendation	Observe local, state and federal laws and regulations.
Uncleaned packaging recommendation	Disposal must be made according to official regulations

Section 14 – Transport Information

Label for conveyance	--
UN Number	UN 3481
Transport hazard class(es)	--
Packing group	--
Marine pollutant	No
UN Proper shipping name	Lithium ion Batteries (Including lithium ion polymer batteries) Lithium ion Batteries packed with equipment (Including lithium ion polymer batteries) Lithium ion Batteries contained in equipments (Including lithium ion polymer batteries)
ICAO/IATA	Can be shipped by air in accordance with international Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA) DGR 63rd Packing Instructions Section IB~II of 965 or Section II of 966 967 appropriately.
IMDG CODE	International Maritime Dangerous Goods Code under Special Provision 188 IMDG CODE (Amdt 40-20)
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road under Special Provision 188
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail under Special Provision 188

The dangerous goods regulations require that each battery design be subject to tests contained in Section 38.3 of the UN Manual of Tests and Criteria prior to being offered for transport.

Section 15- Regulatory information

Law information

《Dangerous Goods Regulations》
《Recommendation on the Transport of Dangerous Goods Model Regulations》
《International Maritime Dangerous Goods》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《Classification and code of dangerous Goods》
《Consumer Product Safety Act》(CPSA)
《Federal Environmental Pollution Control Act》(FEPCA)
《Resource Conservation and Recovery Act》(RCRA)
《European Agreement concerning the International Carriage of Dangerous》
《Regulations concerning the International Carriage of Dangerous》

In according with all Federal, State and local laws.

Section 16- Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, concorde makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

-- End of Report --