



## Material Safety Data Sheet

### 1. Product & Company Identification

<b>Product:</b>	20tlg. Lithium-Knopfzellenset
<b>Manufacturer:</b>	Conrad Electronic SE
<b>Model:</b>	CR1025, CR1216, CR1220, CR1616, CR1620, CR1632, CR2460 CR2016, CR2025, CR2032, CR2430, CR2450, CR2050, CR2477
<b>Nominal voltage:</b>	3 V
<b>Address:</b>	Klaus-Conrad-Strasse 1, D-92240 Hirschau
<b>Telephone:</b>	+49 (0) 9604 / 40 - 8988
<b>Date of issue:</b>	12.03.2014

### 2. Composition and Information about the Ingredients

Chemical name	CAS No.	Content (wt%)
Manganese Dioxide	1313-13-9	15 to 40
Propylene Carbonate	108-32-7	2 to 6
1.2-Dimethoxyethane	110-71-4	1 to 5
Lithium Perchlorate	7791-03-9	0 to 1.5
Lithium or Lithium Alloy*	7439-93-2	1 to 5
Graphite	7782-42-5	1 to 4

\*Lithium content for each cell

Model	Rated Specification	Li content (g)	Model	Rated Specification	Li content (g)
CR1025	0.09WH	0.009	CR2016	0.24WH	0.03
CR1216	0.08WH	0.008	CR2025	0.45WH	0.05
CR1220	0.11WH	0.011	CR2032	0.63WH	0.07
CR1616	0.15WH	0.02	CR2430	0.54WH	0.09
CR1620	0.21WH	0.025	CR2450	1.65WH	0.18
CR1632	0.375WH	0.04	CR2050	0.90WH	0.10
CR2460	2.10WH	0.20	CR2477	2.4WH	0.25

### 3. Hazards Identification

This contains lithium, organic solvent, and other combustible materials. For this reason, improper handling of the battery could lead to distortion, leakage (\*), overheating, explosion, or fire and cause human injury or equipment trouble. Please strictly observe safety instructions.

(\*) Leakage is defined as an unintended escape of liquid from a battery.



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### 4. First Aid Measures

None unless internal materials exposure. If contents are leaked out, observe following instructions:

#### Inhalation

Fumes can cause respiratory irritation. Remove to fresh air and consult a physician.

#### Skin

Immediately flush skin with plenty of water. If itch or irritation by chemical burn persists consult a physician.

#### Eyes

Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately.-

#### Ingestion

If swallowing a battery, consult a physician immediately. If contents come into mouth, immediately rinse by plenty of water and consult a physician.

### 5. Fire Fighting Measures

#### Extinguishing Media

Extinguisher of alkaline metal fire is effective. Plenty of cold water is also effective to cool the surrounding area and control the spread fire. But hydrogen gas may be evolves by the reaction of water and lithium and it can form an explosive mixture.

Therefore in the case that lots of lithium batteries are burning in a confined space, use a smothering agent.

#### Fire fighting procedure

Use self-contained breathing apparatus and full protective gear not to inhale harmful gas.

### 6. Accidental Release Measures

NA

### 7. Handling and Storage

#### 1) Handling

Never swallow. Never charge. Never heat. Never expose to open flame. Never disassemble. Never reverse the positive and negative terminals when mounting. Never short-circuit the battery. Never weld the terminal or wire to the body of the battery directly. Never use different batteries together. Never touch the liquid leaked out of battery. Never bring fire close to battery liquid. Never keep in touch with battery.

#### 2) Storage

Never let the battery contact with water. Never store the battery in hot and high humid place.



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### 8. Exposure Controls, Personal Protection

Respiratory Protection	NA
Ventilation Local Exhaust	NA
Mechanical	NA
Special	NA
Other	NA
Eye Protection	NA
Protective Gloves	NA
Other protective clothing	NA

### 9. Physical/Chemical Characteristics

NA

### 10. Stability and Reactivity

Stability	NA
Incompatibility	Water
Hazardous polymerization	Will not occur.
Condition to avoid	See section 7
Hazardous Decomposition or Byproducts	Hydrogen

### 11. Toxicological Information

NA

### 12. Ecological Information

NA

### 13. Disposal condition

The battery may be regulated by national or local regulation. Please follow the instructions of proper regulation. As electric capacity is left in a discarded battery and it comes into contact with other metals, it could lead to distortion, leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.



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### 14. Transportation Information

Shipping Name (UN Number)      Lithium metal batteries (UN3090)  
    Lithium metal batteries packed with equipment (UN3091)  
    Lithium metal batteries contained in equipment (UN 3091)

Organizations governing the transport of lithium batteries

Area	Method	Organization	Special Provision
International	Air	IATA, ICAO	Packing instruction 968-970
International	Marine	IMDG	SP188
U.S.A.	Air, Rail, Road, Marine	DOT	49 CFR Section 173.185

Their regulations are based on the UN Recommendations. Each special provision provides specifications on exceptions and packaging for lithium batteries shipping. The product can be transported as „Non Dangerous Goods“ when they meet the requirements of packing instruction 968 section II or 969 section II or part 970 section II of IATA-DGR (53th edition/2012) or SP188 of IMO-IMDG Code, Shipping.

### 15. Regulatory Information

NA

### 16. Other Information

NA