

SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1
Product Name Carbon Zinc Cathode Mix-Battery Kit

Issue Date 12-Sep-2016
Revision date 12-Sep-2016

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Carbon Zinc Cathode Mix-Battery Kit

Other means of identification

Nominal Voltage 1.5V
Rated Capacity 2024mAh
Weight 0.027kg

Recommended use of the chemical and restrictions on use

Recommended Use Power supply
Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier Energizer Battery Manufacturing, Inc
Address 1359 Columbia Rd. Westlake, Ohio
Postal Code 44145
Phone 800-383-7323
FAX -
E-mail -

Importer August Home, INC
Address 657 Bryant Street, San Francisco, CA 94107, USA
Postal Code 94107
Phone +14087996294
FAX -
E-mail pushpinder@august.com

Emergency telephone number

800-424-9300

2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Symbols/Pictograms None
Signal word None
Hazard Statements Not classified
Precautionary Statements
Prevention None.
Response None.
Storage None.
Disposal None.

Hazards not otherwise classified (HNOC)

No information available.

Unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature	Articles		
Chemical Name		CAS No	Weight-%
Manganese dioxide		1313-13-9	55-65
Acetylene black		1333-86-4	10-14
Zinc chloride		7646-85-7	8-12
Zinc oxide		1314-13-2	7-9

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Inhalation	Not an expected route of exposure. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin Contact	Wash skin with soap and water.
Eye contact	Not an expected route of exposure. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Not an expected route of exposure. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors, such as carbon oxides (CO_x), metal oxides.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Evacuate personnel to safe areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so.
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Use personal protection recommended in Section 8. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn	TWA: 0.2 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)	TWA: 3 mg/m ³ inhalable fraction	-	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH	TWA: 3.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m ³ fume TWA: 1 mg/m ³ fume	TWA: 1 mg/m ³ fume (vacated) TWA: 1 mg/m ³ fume (vacated) STEL: 2 mg/m ³ fume	IDLH: 50 mg/m ³ fume TWA: 1 mg/m ³ fume STEL: 2 mg/m ³ fume	TWA: 0.5 mg/m ³	-
Zinc oxide (CAS #: 1314-13-2)	STEL: 10 mg/m ³ respirable fraction TWA: 2 mg/m ³ respirable fraction	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ fume (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) STEL: 10 mg/m ³ fume	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume	TWA: 4 mg/m ³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	-	TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³ Ceiling / Peak: 1.6 mg/m ³ Ceiling / Peak: 0.16 mg/m ³ TWA: 0.5 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)		TWA: 3.5 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	Skin	-
Zinc chloride (CAS #: 7646-85-7)		TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-

Zinc oxide (CAS #: 1314-13-2)	TWA: 0.5 mg/m ³	TWA: 5 mg/m ³ TWA: 10 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-
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Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m ³ TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³	-
Zinc oxide (CAS #: 1314-13-2)	STEL: 10 mg/m ³ TWA: 5 mg/m ³	STEL: 10 mg/m ³ TWA: 2 mg/m ³	STEL: 10 mg/m ³ TWA: 2 mg/m ³	STEL: 3 mg/m ³ TWA: 3 mg/m ³	-

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Manganese dioxide (CAS #: 1313-13-9)	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL: 1 ppm STEL: 0.1 mg/m ³	TWA: 0.5 mg/m ³	1 mg/m ³	STEL 2 mg/m ³ TWA: 0.5 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)	TWA: 3.5 mg/m ³ STEL: 3.5 mg/m ³	-	3 mg/m ³	-	-
Zinc chloride (CAS #: 7646-85-7)	TWA: 1 mg/m ³ STEL: 3 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	1 mg/m ³ 2 mg/m ³ STEL	-	-
Zinc oxide (CAS #: 1314-13-2)	TWA: 5 mg/m ³ STEL: 10 mg/m ³	-	10 mg/m ³ 5 mg/m ³ 10 mg/m ³ STEL	TWA: 5 mg/m ³	-

Appropriate engineering controls

Showers. Eyewash stations. Use with local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hand Protection Wear protective gloves.

Eye/face protection No special technical protective measures are necessary. Avoid contact with eyes.

Skin and body protection No special technical protective measures are necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	No information available
Odor	No information available
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
Vapor density	Not determined
Density	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined

Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

Other information

No information available

10. STABILITY AND REACTIVITY**Reactivity**

No known effects under normal use conditions.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Strong heating. Incompatible materials.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products

None under normal use conditions

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin Contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.

Information on toxicological effects**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide (CAS #: 1313-13-9)	>3480 mg/kg (Rat) male	-	-
Acetylene black(CAS #: 1333-86-4)	> 8000 mg/kg bw(rat)	> 4.6 mg/m ³ /4h (rat)	-
Zinc chloride (CAS #: 7646-85-7)	350 mg/kg (Rat)	-	-
Zinc oxide (CAS #: 1314-13-2)	> 5000 mg/kg (Rat)	-	-

Skin corrosion/irritation

Non-irritating to the skin.

Serious eye damage/eye irritation

No eye irritation.

Sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Acetylene black(CAS #: 1333-86-4)	A3	Group 2B	-	-

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Manganese dioxide (CAS #: 1313-13-9)	> 100 other: v/v saturated solution 72h Desmodesmus subspicatus	> 100 other: % v/v saturated solution 96h Oncorhynchus mykiss	> 100 other: % v/v saturated solution 48h Daphnia magna
Acetylene black(CAS #: 1333-86-4)	> 10000 mg/L/72 h(Scenedesmus subspicatus)	> 1000 mg/l/96h (Brachydanio rerio)	> 5600 mg/l/24h (Daphnia magna)
Zinc chloride (CAS #: 7646-85-7)	0,01 mg/l/72h	0,027 mg/l/96h	0,05 mg/l/48h

Persistence and degradability

No information available.

Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Manganese dioxide (CAS #: 1313-13-9)	<0

Chemical Name	Bioconcentration factor (BCF)
Zinc chloride (CAS #: 7646-85-7)	16000

Mobility in soil

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

Chemical Name	California Hazardous Waste Status
Zinc chloride 7646-85-7	Toxic Corrosive
Zinc oxide 1314-13-2	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID No.	Not regulated
UN Proper shipping name	Not regulated
Hazard Class	Not regulated
Packing Group	Not regulated
Special precautions	No information available
Marine pollutant	Not applicable

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Manganese dioxide 1313-13-9 (55-65)	X	X	X	X	X	X	X	X
Acetylene black 1333-86-4 (10-14)	X	X	X	X	X	X	X	X
Zinc chloride 7646-85-7 (8-12)	X	X	X	X	X	X	X	X
Zinc oxide 1314-13-2 (7-9)	X	X	X	X	X	X	X	X

"-" Not Listed
 "X" Listed

US Federal Regulations

SARA 313

Not applicable

Chemical Name	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1.0
Zinc chloride - 7646-85-7	1.0
Zinc oxide - 1314-13-2	1.0

SARA 311/312 Hazard Categories

Not applicable

CWA (Clean Water Act)

Not applicable

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc chloride 7646-85-7	1000 lb	X	-	X
Zinc oxide 1314-13-2	-	X	-	-

CERCLA

Not applicable

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Zinc chloride 7646-85-7	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	California Proposition 65
Acetylene black- 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Manganese dioxide 1313-13-9	X	-	X
Acetylene black 1333-86-4	X	X	-
Zinc chloride 7646-85-7	X	X	X
Zinc oxide 1314-13-2	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date	12-Sep-2016
Revision date	12-Sep-2016
Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

- TWA** - TWA (time-weighted average)
STEL - STEL (Short Term Exposure Limit)
Ceiling - Maximum limit value
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

----- End of Safety Data Sheet -----

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Uses advised against No information available.

Details of the supplier of the safety data sheet

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Emergency telephone number

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2. HAZARDS IDENTIFICATION

GHS Classification

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Label elements

Symbols/Pictograms None
Signal word None
Hazard Statements Not classified
Precautionary Statements
Prevention None.
Response None.
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Description of first aid measures

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Skin Contact	Wash skin with soap and water.
Eye contact	Not an expected route of exposure. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Not an expected route of exposure. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors, such as carbon oxides (CO_x), metal oxides.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Evacuate personnel to safe areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so.
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Use personal protection recommended in Section 8. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn	TWA: 0.2 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)	TWA: 3 mg/m ³ inhalable fraction	-	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH	TWA: 3.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m ³ fume TWA: 1 mg/m ³ fume	TWA: 1 mg/m ³ fume (vacated) TWA: 1 mg/m ³ fume (vacated) STEL: 2 mg/m ³ fume	IDLH: 50 mg/m ³ fume TWA: 1 mg/m ³ fume STEL: 2 mg/m ³ fume	TWA: 0.5 mg/m ³	-
Zinc oxide (CAS #: 1314-13-2)	STEL: 10 mg/m ³ respirable fraction TWA: 2 mg/m ³ respirable fraction	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ fume (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) STEL: 10 mg/m ³ fume	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume	TWA: 4 mg/m ³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	-	TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³ Ceiling / Peak: 1.6 mg/m ³ Ceiling / Peak: 0.16 mg/m ³ TWA: 0.5 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)		TWA: 3.5 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	Skin	-
Zinc chloride (CAS #: 7646-85-7)		TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-

Zinc oxide (CAS #: 1314-13-2)	TWA: 0.5 mg/m ³	TWA: 5 mg/m ³ TWA: 10 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-
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Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m ³ TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³	-
Zinc oxide (CAS #: 1314-13-2)	STEL: 10 mg/m ³ TWA: 5 mg/m ³	STEL: 10 mg/m ³ TWA: 2 mg/m ³	STEL: 10 mg/m ³ TWA: 2 mg/m ³	STEL: 3 mg/m ³ TWA: 3 mg/m ³	-

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Manganese dioxide (CAS #: 1313-13-9)	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL: 1 ppm STEL: 0.1 mg/m ³	TWA: 0.5 mg/m ³	1 mg/m ³	STEL 2 mg/m ³ TWA: 0.5 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)	TWA: 3.5 mg/m ³ STEL: 3.5 mg/m ³	-	3 mg/m ³	-	-
Zinc chloride (CAS #: 7646-85-7)	TWA: 1 mg/m ³ STEL: 3 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	1 mg/m ³ 2 mg/m ³ STEL	-	-
Zinc oxide (CAS #: 1314-13-2)	TWA: 5 mg/m ³ STEL: 10 mg/m ³	-	10 mg/m ³ 5 mg/m ³ 10 mg/m ³ STEL	TWA: 5 mg/m ³	-

Appropriate engineering controls

Showers. Eyewash stations. Use with local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hand Protection Wear protective gloves.

Eye/face protection No special technical protective measures are necessary. Avoid contact with eyes.

Skin and body protection No special technical protective measures are necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	No information available
Odor	No information available
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
Vapor density	Not determined
Density	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined

Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

Other information

No information available

10. STABILITY AND REACTIVITY**Reactivity**

No known effects under normal use conditions.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Strong heating. Incompatible materials.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products

None under normal use conditions

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin Contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.

Information on toxicological effects**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide (CAS #: 1313-13-9)	>3480 mg/kg (Rat) male	-	-
Acetylene black(CAS #: 1333-86-4)	> 8000 mg/kg bw(rat)	> 4.6 mg/m ³ /4h (rat)	-
Zinc chloride (CAS #: 7646-85-7)	350 mg/kg (Rat)	-	-
Zinc oxide (CAS #: 1314-13-2)	> 5000 mg/kg (Rat)	-	-

Skin corrosion/irritation

Non-irritating to the skin.

Serious eye damage/eye irritation

No eye irritation.

Sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Acetylene black(CAS #: 1333-86-4)	A3	Group 2B	-	-

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Manganese dioxide (CAS #: 1313-13-9)	> 100 other: v/v saturated solution 72h <i>Desmodesmus subspicatus</i>	> 100 other: % v/v saturated solution 96h <i>Oncorhynchus mykiss</i>	> 100 other: % v/v saturated solution 48h <i>Daphnia magna</i>
Acetylene black(CAS #: 1333-86-4)	> 10000 mg/L/72h (<i>Scenedesmus subspicatus</i>)	> 1000 mg/l/96h (<i>Brachydanio rerio</i>)	> 5600 mg/l/24h (<i>Daphnia magna</i>)
Zinc chloride (CAS #: 7646-85-7)	0,01 mg/l/72h	0,027 mg/l/96h	0,05 mg/l/48h

Persistence and degradability

No information available.

Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Manganese dioxide (CAS #: 1313-13-9)	<0

Chemical Name	Bioconcentration factor (BCF)
Zinc chloride (CAS #: 7646-85-7)	16000

Mobility in soil

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

Chemical Name	California Hazardous Waste Status
Zinc chloride 7646-85-7	Toxic Corrosive
Zinc oxide 1314-13-2	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID No.	Not regulated
UN Proper shipping name	Not regulated
Hazard Class	Not regulated
Packing Group	Not regulated
Special precautions	No information available
Marine pollutant	Not applicable

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Manganese dioxide 1313-13-9 (55-65)	X	X	X	X	X	X	X	X
Acetylene black 1333-86-4 (10-14)	X	X	X	X	X	X	X	X
Zinc chloride 7646-85-7 (8-12)	X	X	X	X	X	X	X	X
Zinc oxide 1314-13-2 (7-9)	X	X	X	X	X	X	X	X

"-" Not Listed
 "X" Listed

US Federal Regulations

SARA 313

Not applicable

Chemical Name	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1.0
Zinc chloride - 7646-85-7	1.0
Zinc oxide - 1314-13-2	1.0

SARA 311/312 Hazard Categories

Not applicable

CWA (Clean Water Act)

Not applicable

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc chloride 7646-85-7	1000 lb	X	-	X
Zinc oxide 1314-13-2	-	X	-	-

CERCLA

Not applicable

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Zinc chloride 7646-85-7	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	California Proposition 65
Acetylene black- 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Manganese dioxide 1313-13-9	X	-	X
Acetylene black 1333-86-4	X	X	-
Zinc chloride 7646-85-7	X	X	X
Zinc oxide 1314-13-2	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date	12-Sep-2016
Revision date	12-Sep-2016
Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

----- End of Safety Data Sheet -----

SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1
Product Name Carbon Zinc Cathode Mix-Battery Kit

Issue Date 12-Sep-2016
Revision date 12-Sep-2016

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Carbon Zinc Cathode Mix-Battery Kit

Other means of identification

Nominal Voltage 1.5V
Rated Capacity 2024mAh
Weight 0.027kg

Recommended use of the chemical and restrictions on use

Recommended Use Power supply
Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier Energizer Battery Manufacturing, Inc
Address 1359 Columbia Rd. Westlake, Ohio
Postal Code 44145
Phone 800-383-7323
FAX -
E-mail -

Importer August Home, INC
Address 657 Bryant Street, San Francisco, CA 94107, USA
Postal Code 94107
Phone +14087996294
FAX -
E-mail pushpinder@august.com

Emergency telephone number

800-424-9300

2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Symbols/Pictograms None
Signal word None
Hazard Statements Not classified
Precautionary Statements
Prevention None.
Response None.
Storage None.
Disposal None.

Hazards not otherwise classified (HNOC)

No information available.

Unknown acute toxicity

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature	Articles		
Chemical Name		CAS No	Weight-%
Manganese dioxide		1313-13-9	55-65
Acetylene black		1333-86-4	10-14
Zinc chloride		7646-85-7	8-12
Zinc oxide		1314-13-2	7-9

4. FIRST AID MEASURES

Description of first aid measures

General advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Inhalation	Not an expected route of exposure. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin Contact	Wash skin with soap and water.
Eye contact	Not an expected route of exposure. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Not an expected route of exposure. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors, such as carbon oxides (COx), metal oxides.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Evacuate personnel to safe areas.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so.
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Use personal protection recommended in Section 8. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn	TWA: 0.2 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)	TWA: 3 mg/m ³ inhalable fraction	-	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH	TWA: 3.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m ³ fume TWA: 1 mg/m ³ fume	TWA: 1 mg/m ³ fume (vacated) TWA: 1 mg/m ³ fume (vacated) STEL: 2 mg/m ³ fume	IDLH: 50 mg/m ³ fume TWA: 1 mg/m ³ fume STEL: 2 mg/m ³ fume	TWA: 0.5 mg/m ³	-
Zinc oxide (CAS #: 1314-13-2)	STEL: 10 mg/m ³ respirable fraction TWA: 2 mg/m ³ respirable fraction	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ fume (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) STEL: 10 mg/m ³ fume	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume	TWA: 4 mg/m ³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	-	TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³ Ceiling / Peak: 1.6 mg/m ³ Ceiling / Peak: 0.16 mg/m ³ TWA: 0.5 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)		TWA: 3.5 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	Skin	-
Zinc chloride (CAS #: 7646-85-7)		TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-

Zinc oxide (CAS #: 1314-13-2)	TWA: 0.5 mg/m ³	TWA: 5 mg/m ³ TWA: 10 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Ceiling / Peak: 2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³ Ceiling / Peak: 4 mg/m ³	-
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Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.5 mg/m ³	-
Zinc chloride (CAS #: 7646-85-7)	STEL: 2 mg/m ³ TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³	-
Zinc oxide (CAS #: 1314-13-2)	STEL: 10 mg/m ³ TWA: 5 mg/m ³	STEL: 10 mg/m ³ TWA: 2 mg/m ³	STEL: 10 mg/m ³ TWA: 2 mg/m ³	STEL: 3 mg/m ³ TWA: 3 mg/m ³	-

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Manganese dioxide (CAS #: 1313-13-9)	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL: 1 ppm STEL: 0.1 mg/m ³	TWA: 0.5 mg/m ³	1 mg/m ³	STEL 2 mg/m ³ TWA: 0.5 mg/m ³	-
Acetylene black(CAS #: 1333-86-4)	TWA: 3.5 mg/m ³ STEL: 3.5 mg/m ³	-	3 mg/m ³	-	-
Zinc chloride (CAS #: 7646-85-7)	TWA: 1 mg/m ³ STEL: 3 mg/m ³	STEL: 2 mg/m ³ TWA: 1 mg/m ³	1 mg/m ³ 2 mg/m ³ STEL	-	-
Zinc oxide (CAS #: 1314-13-2)	TWA: 5 mg/m ³ STEL: 10 mg/m ³	-	10 mg/m ³ 5 mg/m ³ 10 mg/m ³ STEL	TWA: 5 mg/m ³	-

Appropriate engineering controls

Showers. Eyewash stations. Use with local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hand Protection Wear protective gloves.

Eye/face protection No special technical protective measures are necessary. Avoid contact with eyes.

Skin and body protection No special technical protective measures are necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	No information available
Odor	No information available
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
Vapor density	Not determined
Density	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined

Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

Other information

No information available

10. STABILITY AND REACTIVITY**Reactivity**

No known effects under normal use conditions.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Strong heating. Incompatible materials.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products

None under normal use conditions

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin Contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.

Information on toxicological effects**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide (CAS #: 1313-13-9)	>3480 mg/kg (Rat) male	-	-
Acetylene black(CAS #: 1333-86-4)	> 8000 mg/kg bw(rat)	> 4.6 mg/m ³ /4h (rat)	-
Zinc chloride (CAS #: 7646-85-7)	350 mg/kg (Rat)	-	-
Zinc oxide (CAS #: 1314-13-2)	> 5000 mg/kg (Rat)	-	-

Skin corrosion/irritation

Non-irritating to the skin.

Serious eye damage/eye irritation

No eye irritation.

Sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Acetylene black(CAS #: 1333-86-4)	A3	Group 2B	-	-

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants EC50	Fish LC50	Crustacea EC50
Manganese dioxide (CAS #: 1313-13-9)	> 100 other: v/v saturated solution 72h Desmodesmus subspicatus	> 100 other: % v/v saturated solution 96h Oncorhynchus mykiss	> 100 other: % v/v saturated solution 48h Daphnia magna
Acetylene black(CAS #: 1333-86-4)	> 10000 mg/L/72 h(Scenedesmus subspicatus)	> 1000 mg/l/96h (Brachydanio rerio)	> 5600 mg/l/24h (Daphnia magna)
Zinc chloride (CAS #: 7646-85-7)	0,01 mg/l/72h	0,027 mg/l/96h	0,05 mg/l/48h

Persistence and degradability

No information available.

Bioaccumulative potential

Chemical Name	Partition coefficient (LogPow)
Manganese dioxide (CAS #: 1313-13-9)	<0

Chemical Name	Bioconcentration factor (BCF)
Zinc chloride (CAS #: 7646-85-7)	16000

Mobility in soil

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

Chemical Name	California Hazardous Waste Status
Zinc chloride 7646-85-7	Toxic Corrosive
Zinc oxide 1314-13-2	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID No.	Not regulated
UN Proper shipping name	Not regulated
Hazard Class	Not regulated
Packing Group	Not regulated
Special precautions	No information available
Marine pollutant	Not applicable

15. REGULATORY INFORMATION

International Inventories

Component	AICS	DSL/NDL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA
Manganese dioxide 1313-13-9 (55-65)	X	X	X	X	X	X	X	X
Acetylene black 1333-86-4 (10-14)	X	X	X	X	X	X	X	X
Zinc chloride 7646-85-7 (8-12)	X	X	X	X	X	X	X	X
Zinc oxide 1314-13-2 (7-9)	X	X	X	X	X	X	X	X

"-" Not Listed

"X" Listed

US Federal Regulations

SARA 313

Not applicable

Chemical Name	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1.0
Zinc chloride - 7646-85-7	1.0
Zinc oxide - 1314-13-2	1.0

SARA 311/312 Hazard Categories

Not applicable

CWA (Clean Water Act)

Not applicable

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc chloride 7646-85-7	1000 lb	X	-	X
Zinc oxide 1314-13-2	-	X	-	-

CERCLA

Not applicable

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Zinc chloride 7646-85-7	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	California Proposition 65
Acetylene black- 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Manganese dioxide 1313-13-9	X	-	X
Acetylene black 1333-86-4	X	X	-
Zinc chloride 7646-85-7	X	X	X
Zinc oxide 1314-13-2	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date	12-Sep-2016
Revision date	12-Sep-2016
Revision Note	Not applicable

Key or legend to abbreviations and acronyms used in the safety data sheet

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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KECL - Korean Existing and Evaluated Chemical Substances

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----- End of Safety Data Sheet -----