

**Energizer**

## PRODUCT SAFETY DATASHEET

Page 1 of 4  
Alkaline Batteries  
March 2015**PRODUCT SAFETY DATA SHEET****PRODUCT NAME:** Eveready / Energizer Battery**Type No.:****Volts:****TRADE NAMES:** ENERGIZER, ENERGIZER e<sup>2</sup>, INDUSTRIAL ZMA, HERCULES, EVEREADY, WONDER**Approximate Weight:****CHEMICAL SYSTEM:** Alkaline Manganese Dioxide-Zinc**Designed for Recharge:** No

Energizer has prepared copyrighted Product Safety Datasheets to provide information on the different Eveready/Energizer battery systems. Batteries are articles as defined under the GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of the GHS). The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, ENERGIZER BATTERY MANUFACTURING, INC. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.

**SECTION 1 - MANUFACTURER INFORMATION**Energizer Battery Manufacturing, Inc.  
25225 Detroit Rd.  
Westlake, OH 44145Telephone Number for Information:  
800-383-7323 (USA / CANADA)

Date Prepared: March 2015

**SECTION 2 - HAZARDS IDENTIFICATION****GHS classification:** N/A**Signal Word:** N/A**Hazard Classification:** N/A

Under normal conditions of use, the battery is hermetically sealed.

**Ingestion:** Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.**Inhalation:** Contents of an open battery can cause respiratory irritation.**Skin Contact:** Contents of an open battery can cause skin irritation and/or chemical burns.**Eye Contact:** Contents of an open battery can cause severe irritation and chemical burns.**SECTION 3 - INGREDIENTS****IMPORTANT NOTE:** The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Graphite (CAS# 7782-42-5)	15 mg/m <sup>3</sup> TWA (total dust) 5 mg/m <sup>3</sup> TWA (respirable fraction)	2 mg/m <sup>3</sup> TWA (respirable fraction)	2-6
Manganese Dioxide (CAS# 1313-13-9)	5 mg/m <sup>3</sup> Ceiling (as Mn)	0.2 mg/m <sup>3</sup> TWA (as Mn)	30-45
Potassium Hydroxide (CAS# 1310-58-3)	None established	2 mg/m <sup>3</sup> Ceiling	4-8
Zinc (CAS# 7440-66-6)	15 mg/m <sup>3</sup> TWA PNOR* (total dust) 5 mg/m <sup>3</sup> TWA PNOR* (respirable fraction)	10 mg/m <sup>3</sup> TWA PNOC** (inhalable particulate) 3 mg/m <sup>3</sup> TWA PNOC** (respirable particulate)	12-25

Non-Hazardous Components			
Steel	None established	None established	18-22
(Iron CAS# 65997-19-5)			
Water, Paper, Plastic and Other	None established	None established	Balance

\* PNOR: Particulates not otherwise regulated

\*\*PNOC: Particulates not otherwise classified

### SECTION 4 – FIRST AID MEASURES

**Ingestion:** Do not induce vomiting or give food or drink. Seek medical attention immediately. CALL NATIONAL BATTERY INGESTION HOTLINE for advice and follow-up (202-625-3333) collect day or night.

**Inhalation:** Provide fresh air and seek medical attention.

**Skin Contact:** Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

**Eye Contact:** Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

### SECTION 5 - FIRE FIGHTING MEASURES

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

To cleanup leaking batteries:

**Ventilation Requirements:** Room ventilation may be required in areas where there are open or leaking batteries.

**Eye Protection:** Wear safety glasses with side shields if handling an open or leaking battery.

**Gloves:** Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container.

### SECTION 7 - HANDLING AND STORAGE

**Storage:** Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

**Mechanical Containment:** If potting or sealing the battery in an airtight or watertight container is required, consult your Energizer Battery Manufacturing, Inc. representative for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air, can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.

Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

**Handling:** Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, consult your Energizer Battery Manufacturing, Inc. representative for proper precautions to prevent seal damage or short circuit.

**Charging:** This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

**Labeling:** If the Eveready / Energizer Battery label or package warnings are not visible, it is important to provide a package and/or device label stating:

**WARNING:** do not install backwards, charge, put in fire, or mix with other battery types. May explode or leak causing injury.  
**Replace all batteries at the same time.**

Where accidental ingestion of small batteries is possible, the label should include:

Keep away from small children. If swallowed, promptly see doctor; have doctor phone (202) 625-3333 collect.

**SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Ventilation Requirements:** Not necessary under normal conditions.

**Respiratory Protection:** Not necessary under normal conditions.

**Eye Protection:** Not necessary under normal conditions.

**Gloves:** Not necessary under normal conditions.

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

Appearance (physical state, color, etc.):	Solid object
Upper Explosive Limits:	Not applicable for an Article
Lower Explosive Limits	Not applicable for an Article
Odor	No odor
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Odor Threshold	No odor
Vapor Density (Air = 1)	Not applicable for an Article
pH	Not applicable for an Article
Density (g/cm <sup>3</sup> )	2.0 – 3.0
Melting point/Freezing Point	Not applicable for an Article
Solubility in Water (% by weight)	Not applicable for an Article
Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Flash Point	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article
Flammability	Not applicable for an Article
Partition Coefficient	Not applicable for an Article
Auto-ignition Temperature	Not applicable for an Article
Decomposition Temperature	Not applicable for an Article
Viscosity	Not applicable for an Article

**SECTION 10 – STABILITY AND REACTIVITY**

Alkaline batteries do not meet any of the criteria established in 40 CFR 261.2 for reactivity.

**SECTION 11 – TOXICOLOGICAL INFORMATION**

Under normal conditions of use, alkaline batteries are non-toxic.

**SECTION 12 – ECOLOGICAL INFORMATION**

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all applicable federal, state and local regulations. Appropriate disposal technologies include incineration and land filling.

**SECTION 14 – TRANSPORT INFORMATION**

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Energizer alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline batteries (sometimes referred to as "Dry cell" batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	Not regulated

All Energizer alkaline batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words "not restricted" and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

**SECTION 15 - REGULATORY INFORMATION**

Batteries marketed by Energizer Battery Manufacturing, Inc. are not classified as dangerous goods by the US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

**SECTION 16 - OTHER INFORMATION**

None.

**Safety Data Sheet**  
**Isoamyl Benzoate for Synthesis**



SDS Revision Date:

12/09/2014

**1. Identification of the substance/mixture and of the company/undertaking**

**1.1. Product identifier**

<b>Product Identity</b>	Isoamyl Benzoate for Synthesis
<b>Alternate Names</b>	Isoamyl Benzoate for Synthesis

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

<b>Intended use</b>	Chemical for synthesis
<b>Application Method</b>	See Technical Data Sheet.

**1.3. Details of the supplier of the safety data sheet**

<b>Company Name</b>	Thermco Products, Inc. 10 Millpond Drive, Unit #10 Lafayette, NJ 07848
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**Emergency**

<b>Customer Service: Thermco Products, Inc.</b>	973.300.9100
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**2. Hazard identification of the product**

**2.1. Classification of the substance or mixture**

Combustible Liquid;H227    Combustible Liquid.

**2.2. Label elements**

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.  
H227 Combustible liquid.

**[Prevention]:**

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P280 Wear protective gloves / eye protection / face protection.

**[Response]:**

No GHS response statements

**[Storage]:**

P403+235 Store in a well ventilated place. Keep cool.

**[Disposal]:**

P501 Dispose of contents / container in accordance with local / national regulations.

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**3. Composition/information on ingredients**

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
ISOPENTYL BENZOATE CAS Number: 0000094-46-2	100	Not classified	[1]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

\*The full texts of the phrases are shown in Section 16.

**4. First aid measures**

**4.1. Description of first aid measures**

- General** In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
- Inhalation** Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
- Eyes** Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
- Skin** Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
- Ingestion** If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

**4.2. Most important symptoms and effects, both acute and delayed**

- Overview** No specific symptom data available.  
See section 2 for further details.

**5. Fire-fighting measures**

**5.1. Extinguishing media**

Recommended extinguishing media; alcohol resistant foam, CO<sub>2</sub>, powder, water spray.  
Do not use; water jet.

**5.2. Special hazards arising from the substance or mixture**

Do not inhale vapors/aerosols. Ensure supply of fresh air in enclosed rooms.

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Hazardous decomposition: No hazardous decomposition data available.  
Keep away from heat / sparks / open flames / hot surfaces - No smoking.

### 5.3. Advice for fire-fighters

#### Special risks:

Combustible. Vapors heavier than air.  
Forms explosive mixtures with air on intense heating.  
Development of hazardous combustion gases or vapors possible in the event of fire.

#### Special protective equipment for fire fighting:

Do not stay in dangerous zone without self-contained breathing apparatus.  
Do not allow run off water and contaminants from fire fighting to enter drains or water ways.

ERG Guide No. ----

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).  
Do not inhale vapors/aerosols. Ensure supply of fresh air in enclosed rooms.

### 6.2. Environmental precautions

Do not allow spills to enter drains or waterways.  
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### 6.3. Methods and material for containment and cleaning up

Do not inhale vapors/aerosols. Ensure supply of fresh air in enclosed rooms.  
Take up with liquid-absorbent material (e.g. Chemizorb). Forward for disposal. Clean up affected area.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Store in accordance with the National Fire Protection Association's publication NFPA 30, Flammable and Combustible Liquids Code. 29 CFR 1910.106 applies to the handling, storage, and use of flammable and combustible liquids.

See section 2 for further details. - [Prevention]:

### 7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.  
Store in a cool dry area, away from heat, sparks and open flame. Keep containers sealed when not in use. Store out of direct sunlight.  
Incompatible materials: Strong oxidizing agents  
Tightly closed. At +15C to +25C.

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See section 2 for further details. - [Storage]:

**7.3. Specific end use(s)**

No data available.

### 8. Exposure controls and personal protection

**8.1. Control parameters**

**Exposure**

CAS No.	Ingredient	Source	Value
0000094-46-2	ISOPENTYL BENZOATE	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

**Carcinogen Data**

CAS No.	Ingredient	Source	Value
0000094-46-2	ISOPENTYL BENZOATE	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

**8.2. Exposure controls**

- Respiratory**      If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.
- Eyes**             Protective safety glasses required
- Skin**              Butyl rubber gloves  
Layer thickness: 0.7 mm  
Breakthrough time: >240 min
- Engineering Controls**    Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
- Other Work Practices**    Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:



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**Isoamyl Benzoate for Synthesis**

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**9. Physical and chemical properties**

Appearance	Colorless Liquid
Odor	Almost Odorless
Odor threshold	Not Measured
pH	NA
Melting point / freezing point	NA
Initial boiling point and boiling range	260 C
Flash Point	89 C
Evaporation rate (Ether = 1)	NA
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: NA Upper Explosive Limit: NA
Vapor pressure (Pa)	NA
Vapor Density	NA
Density	0.99 g/cm <sup>3</sup> (@20C)
Solubility in Water	Insoluble
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	NA
Decomposition temperature	NA
Viscosity (cSt)	NA
VOC %	NA
Log Pow	4.15 (experimental) (Lit.)

**9.2. Other information**

No other relevant information.

**10. Stability and reactivity**

**10.1. Reactivity**

Hazardous Polymerization will not occur.

**10.2. Chemical stability**

Stable under normal circumstances.

**10.3. Possibility of hazardous reactions**

No data available.

**10.4. Conditions to avoid**

Forms explosive mixtures with air on intense heating.

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**10.5. Incompatible materials**

Strong Oxidizing agents.

**10.6. Hazardous decomposition products**

No hazardous decomposition data available.

### 11. Toxicological information

**Acute toxicity**

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
ISOPENTYL BENZOATE - (94-46-2)	6330 00, Rat - Category: NA	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

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**12. Ecological information**

**12.1. Toxicity**

Do not allow product to enter water, wastewater or soil! See Section 3 for chemical specific data.

**Aquatic Ecotoxicity**

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
ISOPENTYL BENZOATE - (94-46-2)	Not Available	Not Available	Not Available

**12.2. Persistence and degradability**

There is no data available on the preparation itself.

**12.3. Bioaccumulative potential**

An appreciable bioaccumulation potential is to be expected (log Po/w >3)

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

This product contains no PBT/vPvB chemicals.

**12.6. Other adverse effects**

No data available.

**13. Disposal considerations**

**13.1. Waste treatment methods**

Observe all federal, state and local regulations when disposing of this substance.

**14. Transport information**

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
<b>14.1. UN number</b>	Not Applicable	Not Regulated	Not Regulated
<b>14.2. UN proper shipping name</b>	Not Regulated	Not Regulated	Not Regulated
<b>14.3. Transport hazard class(es)</b>	DOT Hazard Class: Not Applicable DOT Label: —	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
<b>14.4. Packing group</b>	Not Applicable	Not Applicable	Not Applicable

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**14.5. Environmental hazards**

IMDG Marine Pollutant: No

**14.6. Special precautions for user**

No further information

**15. Regulatory information**

**Regulatory Overview** The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

**Toxic Substance Control Act ( TSCA)** All components of this material are either listed or exempt from listing on the TSCA Inventory.

**WHMIS Classification** B3

**US EPA Tier II Hazards**

**Fire: Yes**

**Sudden Release of Pressure: No**

**Reactive: No**

**Immediate (Acute): No**

**Delayed (Chronic): No**

**EPCRA 311/312 Chemicals and RQs:**  
(No Product Ingredients Listed)

**EPCRA 302 Extremely Hazardous :**  
(No Product Ingredients Listed)

**EPCRA 313 Toxic Chemicals:**  
(No Product Ingredients Listed)

**Proposition 65 - Carcinogens (>0.0%):**  
(No Product Ingredients Listed)

**Proposition 65 - Developmental Toxins (>0.0%):**  
(No Product Ingredients Listed)

**Proposition 65 - Female Repro Toxins (>0.0%):**  
(No Product Ingredients Listed)

**Proposition 65 - Male Repro Toxins (>0.0%):**  
(No Product Ingredients Listed)

**N.J. RTK Substances (>1%) :**  
(No Product Ingredients Listed)

**Penn RTK Substances (>1%) :**  
(No Product Ingredients Listed)

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**16. Other information**

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is: not applicable

**This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.**

Disclaimer: This information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Document

### PRODUCT SAFETY DATA SHEET

**PRODUCT NAME:** Eveready / Energizer Battery

**Type No.:**                      **Volts:**

**TRADE NAMES:** ENERGIZER, ENERGIZER e<sup>2</sup>, INDUSTRIAL ZMA, HERCULES, EVEREADY, WONDER

**Approximate Weight:**

**CHEMICAL SYSTEM:** Alkaline Manganese Dioxide-Zinc

**Designed for Recharge:** No

*Energizer has prepared copyrighted Product Safety Datasheets to provide information on the different Eveready/Energizer battery systems. Batteries are articles as defined under the GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of the GHS). The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, ENERGIZER BATTERY MANUFACTURING, INC. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.*

#### SECTION 1 - MANUFACTURER INFORMATION

Energizer Battery Manufacturing, Inc.  
25225 Detroit Rd.  
Westlake, OH 44145

Telephone Number for Information:  
800-383-7323 (USA / CANADA)

Date Prepared: March 2015

#### SECTION 2 – HAZARDS IDENTIFICATION

**GHS classification:** N/A

**Signal Word:** N/A

**Hazard Classification:** N/A

Under normal conditions of use, the battery is hermetically sealed.

**Ingestion:** Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

**Inhalation:** Contents of an open battery can cause respiratory irritation.

**Skin Contact:** Contents of an open battery can cause skin irritation and/or chemical burns.

**Eye Contact:** Contents of an open battery can cause severe irritation and chemical burns.

#### SECTION 3 - INGREDIENTS

**IMPORTANT NOTE:** The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Graphite (CAS# 7782-42-5)	15 mg/m <sup>3</sup> TWA (total dust) 5 mg/m <sup>3</sup> TWA (respirable fraction)	2 mg/m <sup>3</sup> TWA (respirable fraction)	2-6
Manganese Dioxide (CAS# 1313-13-9)	5 mg/m <sup>3</sup> Ceiling (as Mn)	0.2 mg/m <sup>3</sup> TWA (as Mn)	30-45
Potassium Hydroxide (CAS# 1310-58-3)	None established	2 mg/m <sup>3</sup> Ceiling	4-8
Zinc (CAS# 7440-66-6)	15 mg/m <sup>3</sup> TWA PNOR* (total dust) 5 mg/m <sup>3</sup> TWA PNOR* (respirable fraction)	10 mg/m <sup>3</sup> TWA PNOC** (inhalable particulate) 3 mg/m <sup>3</sup> TWA PNOC** (respirable particulate)	12-25

Non-Hazardous Components			
Steel (iron CAS# 65997-19-5)	None established	None established	18-22
Water, Paper, Plastic and Other	None established	None established	Balance

\* PNOR: Particulates not otherwise regulated

\*\*PNOC: Particulates not otherwise classified

### SECTION 4 – FIRST AID MEASURES

**Ingestion:** Do not induce vomiting or give food or drink. Seek medical attention immediately. CALL NATIONAL BATTERY INGESTION HOTLINE for advice and follow-up (202-625-3333) collect day or night.

**Inhalation:** Provide fresh air and seek medical attention.

**Skin Contact:** Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

**Eye Contact:** Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

### SECTION 5 - FIRE FIGHTING MEASURES

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

To cleanup leaking batteries:

**Ventilation Requirements:** Room ventilation may be required in areas where there are open or leaking batteries.

**Eye Protection:** Wear safety glasses with side shields if handling an open or leaking battery.

**Gloves:** Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container.

### SECTION 7 - HANDLING AND STORAGE

**Storage:** Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

**Mechanical Containment:** If potting or sealing the battery in an airtight or watertight container is required, consult your Energizer Battery Manufacturing, Inc. representative for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air, can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.

Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

**Handling:** Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, consult your Energizer Battery Manufacturing, Inc. representative for proper precautions to prevent seal damage or short circuit.

**Charging:** This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

**Labeling:** If the Eveready / Energizer Battery label or package warnings are not visible, it is important to provide a package and/or device label stating:

**WARNING:** do not install backwards, charge, put in fire, or mix with other battery types. May explode or leak causing injury.  
**Replace all batteries at the same time.**

Where accidental ingestion of small batteries is possible, the label should include:

Keep away from small children. If swallowed, promptly see doctor; have doctor phone (202) 625-3333 collect.

**SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Ventilation Requirements:** Not necessary under normal conditions.

**Respiratory Protection:** Not necessary under normal conditions.

**Eye Protection:** Not necessary under normal conditions.

**Gloves:** Not necessary under normal conditions.

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

Appearance (physical state, color, etc.):	Solid object
Upper Explosive Limits:	Not applicable for an Article
Lower Explosive Limits	Not applicable for an Article
Odor	No odor
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Odor Threshold	No odor
Vapor Density (Air = 1)	Not applicable for an Article
pH	Not applicable for an Article
Density (g/cm <sup>3</sup> )	2.0 – 3.0
Melting point/Freezing Point	Not applicable for an Article
Solubility in Water (% by weight)	Not applicable for an Article
Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Flash Point	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article
Flammability	Not applicable for an Article
Partition Coefficient	Not applicable for an Article
Auto-ignition Temperature	Not applicable for an Article
Decomposition Temperature	Not applicable for an Article
Viscosity	Not applicable for an Article

**SECTION 10 – STABILITY AND REACTIVITY**

Alkaline batteries do not meet any of the criteria established in 40 CFR 261.2 for reactivity.



**SECTION 11 – TOXICOLOGICAL INFORMATION**

Under normal conditions of use, alkaline batteries are non-toxic.

**SECTION 12 – ECOLOGICAL INFORMATION**

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all applicable federal, state and local regulations. Appropriate disposal technologies include incineration and land filling.

**SECTION 14 – TRANSPORT INFORMATION**

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Energizer alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline batteries (sometimes referred to as "Dry cell" batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	Not regulated

All Energizer alkaline batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words "not restricted" and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

**SECTION 15 - REGULATORY INFORMATION**

Batteries marketed by Energizer Battery Manufacturing, Inc. are not classified as dangerous goods by the US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

**SECTION 16 - OTHER INFORMATION**

None.

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 08/12/2014

## 1 Identification

- **Product identifier**
- **Trade name:** Blue Coloring
- **Article number:** 030-5777
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [sherman@aquasolutions.org](mailto:sherman@aquasolutions.org)  
Product safety department
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2B H320 Causes eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
1,2-Propanediol (Propylene Glycol)
- **Hazard statements**  
Harmful if swallowed.  
Causes skin and eye irritation.
- **Precautionary statements**  
If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wear protective gloves/protective clothing/eye protection/face protection.  
**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Specific treatment (see on this label).

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Trade name: Blue Coloring

(Contd. of page 1)

Take off contaminated clothing and wash before reuse.

If skin irritation occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**

HEALTH	1
FIRE	0
REACTIVITY	0

Health = 1

Fire = 0

Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

### 3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

57-55-6	1,2-Propanediol (Propylene Glycol)	14.922%
3844-45-9	Erioglauoine	2.984%

• **Table of Nonhazardous Ingredients**

94-13-3	propyl 4-hydroxybenzoate	0.1%
7732-18-5	Water, Deionized, ASTM Type II	81.994%

### 4 First-aid measures

• **Description of first aid measures**

• **After inhalation:** Supply fresh air; consult doctor in case of complaints.

• **After skin contact:** Generally the product does not irritate the skin.

• **After eye contact:** Rinse opened eye for several minutes under running water.

• **After swallowing:** If symptoms persist consult doctor.

• **Most important symptoms and effects, both acute and delayed** No further relevant information available.

• **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

• **Extinguishing media**

• **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

• **Special hazards arising from the substance or mixture** No further relevant information available.

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Trade name: Blue Coloring

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

57-55-6 1,2-Propanediol (Propylene Glycol)

TWA	Short-term value: 10 mg/m <sup>3</sup> weel
WEEL	Long-term value: 10 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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Trade name: Blue Coloring

(Contd. of page 3)

- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

· <b>Form:</b>	Liquid
· <b>Color:</b>	Dark blue
· <b>Odor:</b>	Mild
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

#### · Change in condition

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	Undetermined.

· **Flash point:** 210 °C (410 °F)

· **Flammability (solid, gaseous):** Not applicable.

#### · Ignition temperature:

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

#### · Explosion limits:

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

· **Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (8.345 lbs/gal)

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

#### · Solubility in / Miscibility with

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity:

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

#### · Solvent content:

· <b>Organic solvents:</b>	0.0 %
· <b>Water:</b>	82.0 %

· **Other information** No further relevant information available.

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acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 08/12/2014

Trade name: Blue Coloring

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## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 57-55-6 1,2-Propanediol (Propylene Glycol)

Oral	LD50	20.000 mg/kg (rat)
Dermal	LD50	20.800 mg/kg (rabbit)
Irritation of skin	Skin Corrosion/Irritation	(Human)
Irritation of eyes	Eye damage/eye irritation	(rabbit)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

3844-45-9 | Erioglaucline

3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:** Not known to be hazardous to water.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

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Trade name: Blue Coloring

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- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | Not Applicable  |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | Not Applicable  |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | Not Applicable  |
| · <b>Packing group</b>   |                 |
| · <b>DOT, IMDG, IATA</b>   | Not Applicable  |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | -               |

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

3844-45-9 Erioglauoine

94-13-3 propyl 4-hydroxybenzoate

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**

1,2-Propanediol (Propylene Glycol)

· **Hazard statements**

Harmful if swallowed.

Causes skin and eye irritation.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash before reuse.

If skin irritation occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Environment protection department.

· **Contact:** Mr. Nelson

· **Date of preparation / last revision**

Creation date for SDS 08/12/2014 LS

08/12/2014 / -

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**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 08/12/2014

**Trade name: Blue Coloring**

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**Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*

*Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B*

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 07/29/2014

## 1 Identification

- **Product identifier**
- **Trade name:** *Red Coloring*
- **Article number:** 030-5788
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [sherman@aquasolutions.org](mailto:sherman@aquasolutions.org)  
Product safety department
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2B H320 Causes eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
1,2-Propanediol (Propylene Glycol)
- **Hazard statements**  
Harmful if swallowed.  
Causes skin and eye irritation.
- **Precautionary statements**  
If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Specific treatment (see on this label).

(Contd. on page 2)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 07/29/2014

Trade name: Red Coloring

(Contd. of page 1)

Take off contaminated clothing and wash before reuse.

If skin irritation occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

### 3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

57-55-6	1,2-Propanediol (Propylene Glycol)	14.922%
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• **Table of Nonhazardous Ingredients**

915-67-3	Amaranth Indicator (Acid Red 27), (Red #2)	2.984%
94-13-3	propyl 4-hydroxybenzoate	0.1%
7732-18-5	Water, Deionized, ASTM Type II	81.994%

### 4 First-aid measures

• **Description of first aid measures**

• **After inhalation:** Supply fresh air; consult doctor in case of complaints.

• **After skin contact:** Generally the product does not irritate the skin.

• **After eye contact:** Rinse opened eye for several minutes under running water.

• **After swallowing:** If symptoms persist consult doctor.

• **Most important symptoms and effects, both acute and delayed** No further relevant information available.

• **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

• **Extinguishing media**

• **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

• **Special hazards arising from the substance or mixture** No further relevant information available.

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 07/29/2014

Trade name: Red Coloring

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

• **Components with limit values that require monitoring at the workplace:**

57-55-6 1,2-Propanediol (Propylene Glycol)

TWA	Short-term value: 10 mg/m <sup>3</sup> weel
-----	--

WEEL	Long-term value: 10 mg/m <sup>3</sup>
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 4)

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 07/29/2014

Trade name: Red Coloring

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- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - Form: Liquid
  - Color: Dark red
- **Odor:** Mild
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 100 °C (212 °F)
- **Flash point:** 210 °C (410 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:**
  - Decomposition temperature: Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)
- **Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (8.345 lbs/gal)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**
  - Water: Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Solvent content:**
  - Organic solvents: 0.0 %
  - Water: 82.0 %
- **Other information** No further relevant information available.

USA

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 07/29/2014

Trade name: Red Coloring

(Contd. of page 4)

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 57-55-6 1,2-Propanediol (Propylene Glycol)

Oral	LD50	20.000 mg/kg (rat)
Dermal	LD50	20.800 mg/kg (rabbit)
Irritation of skin	Skin Corrosion/Irritation	(Human)
Irritation of eyes	Eye damage/eye irritation	(rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

915-67-3	Amaranth Indicator (Acid Red 27), (Red #2)	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.
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- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.
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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- **Water hazard class 1 (Self-assessment):** slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: Red Coloring

· Other adverse effects No further relevant information available.

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### 13 Disposal considerations

- Waste treatment methods
- Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

### 14 Transport information

- |   |                 |
|---|-----------------|
| · UN-Number   |                 |
| · DOT, ADN, IMDG, IATA  | Not Applicable  |
| · UN proper shipping name   |                 |
| · DOT, ADN, IMDG, IATA  | Not Applicable  |
| · Transport hazard class(es)  |                 |
| · DOT, ADN, IMDG, IATA  |                 |
| · Class   | Not Applicable  |
| · Packing group   |                 |
| · DOT, IMDG, IATA   | Not Applicable  |
| · Environmental hazards:  |                 |
| · Marine pollutant:   | No              |
| · Special precautions for user  | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation":  | -               |

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

915-67-3 Amaranth Indicator (Acid Red 27), (Red #2)

94-13-3 propyl 4-hydroxybenzoate

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

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Printing date 08/12/2014

Reviewed on 07/29/2014

Trade name: Red Coloring

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- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard-determining components of labeling:**

1,2-Propanediol (Propylene Glycol)

- **Hazard statements**

Harmful if swallowed.

Causes skin and eye irritation.

- **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash before reuse.

If skin irritation occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:** Environment protection department.

- **Contact:** Mr. Nelson

- **Date of preparation / last revision**

Creation date for SDS 08/12/2014 LS

08/12/2014 / -

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**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 08/12/2014

Reviewed on 07/29/2014

**Trade name: Red Coloring**

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**Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*

*Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B*

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

## 1 Identification

- **Product identifier**
- **Trade name:** Kosher Salt
- **Article number:** 191-1117
- **CAS Number:**  
7647-14-5
- **EC number:**  
231-598-3
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org  
Product safety department
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The substance is not classified according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Applicable
- **Hazard pictograms** Not Applicable
- **Signal word** Not Applicable
- **Hazard statements** Not Applicable
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: *Kosher Salt*

(Contd. of page 1)

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
7647-14-5 Sodium Chloride
- **Identification number(s)**
- **EC number: 231-598-3**

### 4 First-aid measures

- **Description of first aid measures**
- **General information: No special measures required.**
- **After inhalation: Supply fresh air; consult doctor in case of complaints.**
- **After skin contact: Generally the product does not irritate the skin.**
- **After eye contact: Rinse opened eye for several minutes under running water.**
- **After swallowing: If symptoms persist consult doctor.**
- **Most important symptoms and effects, both acute and delayed No further relevant information available.**
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture No further relevant information available.**
- **Advice for firefighters**
- **Protective equipment: No special measures required.**

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures Not required.**
- **Environmental precautions: Do not allow to enter sewers/ surface or ground water.**
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling No special measures required.**
- **Information about protection against explosions and fires: No special measures required.**
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles: No special requirements.**
- **Information about storage in one common storage facility: Not required.**
- **Further information about storage conditions: None.**

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## Safety Data Sheet

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Printing date 11/17/2014

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Trade name: *Kosher Salt*

• *Specific end use(s) No further relevant information available.*

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### 8 Exposure controls/personal protection

- *Additional information about design of technical systems: No further data; see item 7.*
- *Control parameters*
- *Components with limit values that require monitoring at the workplace: Not required.*
- *Additional information: The lists that were valid during the creation were used as basis.*
- *Exposure controls*
- *Personal protective equipment:*
- *General protective and hygienic measures:*  
*The usual precautionary measures for handling chemicals should be followed.*
- *Breathing equipment: Not required.*
- *Protection of hands:*  
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*  
*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*  
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
- *Material of gloves*  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
- *Penetration time of glove material*  
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*
- *Eye protection: Goggles recommended during refilling.*

### 9 Physical and chemical properties

- *Information on basic physical and chemical properties*
- *General Information*
- *Appearance:*

<i>Form:</i>	<i>Crystalline</i>
<i>Color:</i>	<i>White</i>
<i>Odor:</i>	<i>Odorless</i>
<i>Odour threshold:</i>	<i>Not determined.</i>
- *pH-value at 20 °C (68 °F):* *6-9*
- *Change in condition*

<i>Melting point/Melting range:</i>	<i>Information not °C</i>
<i>Boiling point/Boiling range:</i>	<i>1413 °C (2575 °F)</i>
- *Flash point:* *Not applicable.*
- *Flammability (solid, gaseous):* *Not applicable.*
- *Ignition temperature:*

<i>Decomposition temperature:</i>	<i>Not determined.</i>
<i>Auto igniting:</i>	<i>Not determined.</i>
- *Danger of explosion:* *Product does not present an explosion hazard.*

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USA

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Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: **Kosher Salt**

(Contd. of page 3)

- |   |                 |
|---|-----------------|
| <b>Explosion limits:</b>  |                 |
| <b>Lower:</b>   | Not determined. |
| <b>Upper:</b>   | Not determined. |
| <b>Vapor pressure:</b> Not determined.                                    |                 |
| <b>Density at 20 °C (68 °F):</b> 2.165 g/cm <sup>3</sup> (18.067 lbs/gal) |                 |
| <b>Bulk density at 20 °C (68 °F):</b> 800-1600 kg/m <sup>3</sup>          |                 |
| <b>Relative density:</b> Not determined.                                  |                 |
| <b>Vapour density:</b> Not determined.                                    |                 |
| <b>Evaporation rate:</b> Not determined.                                  |                 |
| <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b> 358 g/l   |                 |
| <b>Partition coefficient (n-octanol/water):</b> Not determined.           |                 |
| <b>Viscosity:</b>   |                 |
| <b>Dynamic:</b>   | Not determined. |
| <b>Kinematic:</b>   | Not determined. |
| <b>Organic solvents:</b>  | 0.0 %           |
| <b>Other information:</b> No further relevant information available.      |                 |

### 10 Stability and reactivity

- **Reactivity:**
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7647-14-5 Sodium Chloride

Oral | LD50 | 3000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.  
The substance is not subject to classification.

(Contd. on page 5)

USA

## Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: **Kosher Salt**

(Contd. of page 4)

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Smaller quantities can be disposed of with household waste.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**

- **DOT, IMDG, IATA**

Not regulated

- **UN proper shipping name**

- **DOT, IATA**

Not regulated

- **IMDG**

Not Regulated

- **Transport hazard class(es)**

- **DOT, IMDG, IATA**

- **Class**

Not regulated

- **Packing group**

- **DOT, IMDG, IATA**

Not regulated

- **Environmental hazards:**

- **Marine pollutant:**

No

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## Safety Data Sheet

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Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: *Kosher Salt*

(Contd. of page 5)

<i>• Special precautions for user</i>	<i>Not applicable.</i>
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<i>• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</i>	<i>Not applicable.</i>
--	------------------------

<i>• Transport/Additional information:</i>	
--	--

<i>• DOT</i>	
--------------	--

<i>• Remarks:</i>	<i>Not regulated</i>
-------------------	----------------------

<i>• IMDG</i>	
---------------	--

<i>• Remarks:</i>	<i>Not regulated</i>
-------------------	----------------------

<i>• IATA</i>	
---------------	--

<i>• Remarks:</i>	<i>Not regulated</i>
-------------------	----------------------

<i>• UN "Model Regulation":</i>	<i>Not regulated</i>
---------------------------------	----------------------

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture*
- Sara*

<i>• Section 355 (extremely hazardous substances):</i>
--

<i>Substance is not listed.</i>
---------------------------------

<i>• Section 313 (Specific toxic chemical listings):</i>
--

<i>Substance is not listed.</i>
---------------------------------

<i>• TSCA (Toxic Substances Control Act):</i>
---

<i>Substance is listed.</i>
-----------------------------

<i>• Proposition 65</i>
-------------------------

<i>• Chemicals known to cause cancer:</i>
---

<i>Substance is not listed.</i>
---------------------------------

<i>• Chemicals known to cause reproductive toxicity for females:</i>
--

<i>Substance is not listed.</i>
---------------------------------

<i>• Chemicals known to cause reproductive toxicity for males:</i>
--

<i>Substance is not listed.</i>
---------------------------------

<i>• Chemicals known to cause developmental toxicity:</i>
---

<i>Substance is not listed.</i>
---------------------------------

<i>• Carcinogenic categories</i>
----------------------------------

<i>• EPA (Environmental Protection Agency)</i>
--

<i>Substance is not listed.</i>
---------------------------------

<i>• TLV (Threshold Limit Value established by ACGIH)</i>
---

<i>Substance is not listed.</i>
---------------------------------

<i>• NIOSH-Ca (National Institute for Occupational Safety and Health)</i>
---

<i>Substance is not listed.</i>
---------------------------------

- GHS label elements Not Applicable*

- Hazard pictograms Not Applicable*

- Signal word Not Applicable*

- Hazard statements Not Applicable*

(Contd. on page 7)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

**Trade name: Kosher Salt**

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. of page 6)

**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Environment protection department.

· **Contact:** Mr. Nelson

· **Date of preparation / last revision** 11/17/2014 / -

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

USA



Common Name: SPLINTAX

Manufacturer: BJORNAX SWEDEN

SDS Revision Date: 10/7/2013

SDS Format: GHS-EU

Grainger Item Number(s): 22CU34, 22CU35, 46C507, 9W533

Manufacturer Model  
Number(s):

BJORNAX  
SMOKE PRODUCTS

SAFETY DATA SHEET

IN ACCORDANCE WITH 453/2010 AND 1272/2008

(ALL REFERENCES TO EU REGULATIONS AND DIRECTIVES ARE ABBREVIATED INTO ONLY  
THE NUMERIC TERM)

ISSUED: 2013-10-07

REPLACES ISSUED: SDS 2012-05-28

## **SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE**

AND OF THE COMPANY/UNDERTAKING

### 1.1. PRODUCT IDENTIFIER:

TRADE NAME: SPLINTAX

### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

IDENTIFIED USES: SMOKE FOR LEAKAGE TESTS AND AIR FLOW STUDIES

### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

COMPANY:  
BJORNAX AB  
STRASSA FORETAGSBY  
SE-71177 STRASSA  
SWEDEN

TELEPHONE: +46 581 43150

E-MAIL: INFO@BJORNAX.SE

**1.4. EMERGENCY TELEPHONE NUMBER:**

IN CASE OF EMERGENCY CONTACT TOXICOLOGICAL INFORMATION, EMERGENCY TEL 112 (WITHIN EUROPE) OR 911 (FOR USA AND CANADA). FOR OTHER COUNTRIES, USE THE BUILT-IN EMERGENCY NUMBER IN YOUR CELL PHONE

FOR NON-EMERGENCY POISON INFORMATION, SEE

[HTTP://WWW.WHO.INT/IPCS/POISONS/CENTRE/DIRECTORY/EURO/EN/](http://www.who.int/ipcs/poisons/centre/directory/euro/en/)

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:**

CLASSIFICATION IN ACCORDANCE WITH 1272/2008:

IRRITATES EYES (CATEGORY 2)

TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS (CATEGORY CRON 2)

CLASSIFICATION IN ACCORDANCE WITH 1999/45/EG:

HARMFUL, HAZARDOUS TO THE AQUATIC ENVIRONMENT; XN N; R20/22 R36 R51/53.

**2.2. LABEL ELEMENTS:**

LABEL INFORMATION IN ACCORDANCE WITH 1272/2008:

HAZARD PICTOGRAMS:

EXCLAMATION MARK

ENVIRONMENT

SIGNAL WORDS: WARNING

HAZARD STATEMENTS:

H319: CAUSES SERIOUS EYE IRRITATION

H411: TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS

PRECAUTIONARY STATEMENTS:

P210:

KEEP AWAY FROM HEAT, SPARKS, OPEN FLAMES, OR HOT SURFACES. - NO SMOKING

P273: AVOID RELEASE TO THE ENVIRONMENT

P280: WEAR EYE PROTECTION

LABEL INFORMATION IN ACCORDANCE WITH 1999/45/EG: SEE SECTION 16.

**2.3. OTHER HAZARDS:**

THE PRODUCT PRODUCES SMOKE WHICH CAN CAUSE IRRITATION UPON CONTACT WITH THE EYES OR INHALATION UNDER CONDITIONS OF LONG PERIODS OF EXPOSURE OR INCORRECT USE. IN CASE OF UNCERTAINTY ABOUT HOW THE PRODUCT SHOULD BE USED, PLEASE CONTACT THE MANUFACTURER OR THE COMPANY FROM WHICH THE PRODUCT WAS ORIGINALLY PURCHASED.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

THIS PRODUCT IS COMPOSED OF A MIXTURE OF SEVERAL SOLID SUBSTANCES.

**3.2. MIXTURES:**

NOTE THAT THE TABLE SHOWS KNOWN HAZARDS OF THE INGREDIENTS IN A PURE FORM. THESE HAZARDS ARE REDUCED OR ELIMINATED WHEN MIXED OR DILUTED, SEE SECTION 16D.

CONSTITUENT	CLASSIFICATION	CONCENTRATION
POTASSIUM CHLORATE:		
CAS NO: 3811-04-9	AQUATIC CHRONIC 2	37%
EC NO: 223-289-7	ACUTE TOX 4DUST	
INDEX NO: 017-004-00-3	ACUTE TOX 4ORAL	
	OX SOL 1	
	H411, H332, H302, H271	
	XN O N; R9 R20/22 R51/53	
AMMONIUM CHLORIDE:		
CAS NO: 12125-02-9	ACUTE TOX 4ORAL	26%
EC NO: 235-186-4	EYE IRRIT 2	
INDEX NO: 017-014-00-8	H302, H319	
	XN; R22 R36	

EXPLANATIONS TO THE CLASSIFICATION AND LABELLING OF THE INGREDIENTS ARE GIVEN IN SECTION 16E. OFFICIAL ABBREVIATIONS ARE PRINTED IN NORMAL FONT. TEXT IN ITALICS ARE SPECIFICATIONS AND/OR COMPLEMENT USED IN THE CALCULATION OF THE HAZARDS OF THIS MIXTURE, SEE SECTION 16B ALSO CONTAINS COMPONENT(S) NOT NECESSARY TO LABEL.

## SECTION 4: FIRST AID MEASURES

### 4.1. DESCRIPTION OF FIRST AID MEASURES:

#### GENERALLY:

NO SPECIAL MEASURES ARE CONSIDERED TO BE NECESSARY. IF SYMPTOMS DO OCCUR HOWEVER, CALL A DOCTOR/PHYSICIAN.

#### UPON BREATHING IN:

INHALATION OF CHEMICALS FROM THE PRODUCT IN NORMAL USE IS NOT APPROPRIATE.

#### FOR GENERATED SMOKE:

IN THE CASE OF OVEREXPOSURE TO GENERATED SMOKE, MOVE THE AFFECTED PERSON TO FRESH AIR. IF SYMPTOMS PERSIST, CONSULT A DOCTOR.

#### UPON CONTACT WITH THE EYES:

EYE CONTACT WITH CHEMICALS FROM THE PRODUCT IN NORMAL USE IS NOT APPROPRIATE.

#### FOR GENERATED SMOKE:

IF SYMPTOMS OCCUR, FLUSH WITH LUKEWARM WATER WITH THE EYE OR EYES WIDE OPEN. IF SYMPTOMS PERSIST, CONSULT A DOCTOR. IN THE CASE OF A BROKEN OR TAMPERED PRODUCT, THE PROCEDURE FOR THE CONSTITUENT CHEMICALS IS AS FOLLOWS:

FLUSH IMMEDIATELY WITH LUKEWARM WATER FOR 15 - 20 MIN WITH THE EYE OR EYES WIDE OPEN. IF SYMPTOMS PERSIST, CONSULT A DOCTOR.

#### UPON SKIN CONTACT:

SKIN CONTACT WITH CHEMICALS FROM THE PRODUCT IN NORMAL USE IS NOT APPROPRIATE. IN CASE OF BROKEN OR TAMPERED PRODUCTS THE PROCEDURE FOR THE CONSTITUENT CHEMICALS IS AS FOLLOWS: WASH THE SKIN WITH SOAP AND WATER.

#### UPON INGESTION:

FIRST RINSE THE MOUTH THOROUGHLY WITH A LOT OF WATER AND SPIT OUT THE WATER. THEN DRINK AT LEAST 1/2 LITER OF WATER AND CALL A DOCTOR/PHYSICIAN.

DO NOT INDUCE VOMITING.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:  
INFORMATION ON SYMPTOMS ARE AMBIGUOUS OR MISSING FOR THIS PRODUCT.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT  
NEEDED: SYMPTOMATIC TREATMENT.

## **SECTION 5: FIRE-FIGHTING MEASURES**

5.1. EXTINGUISHING MEDIA:

RECOMMENDED EXTINGUISHING AGENTS: EXTINGUISH WITH WATER.

UNSUITABLE EXTINGUISHING AGENTS:  
MUST NOT BE EXTINGUISHED WITH FOAM, POWDER OR CARBON DIOXIDE.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:  
IN CASE OF FIRE, SUBSTANCES HAZARDOUS TO HEALTH, OR SUBSTANCES HARMFUL IN  
OTHER RESPECTS, MAY BE DISPERSED. COMBUSTIBLE SOLID.

5.3. ADVICE FOR FIRE-FIGHTERS: IN CASE OF FIRE USE A RESPIRATOR MASK.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:  
AVOID DISCHARGE INTO SEWERS.

6.2. ENVIRONMENTAL PRECAUTIONS: NOT APPLICABLE

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:  
COLLECT.

RESIDUES LEFT BEHIND AFTER CLEANING SHALL BE TREATED AS HAZARDOUS WASTE.  
FOR FURTHER INFORMATION, CONTACT THE LOCAL AUTHORITY SANITISATION WORKS.  
PRESENT THIS SAFETY DATA SHEET.

6.4. REFERENCE TO OTHER SECTIONS: NOT APPLICABLE

## **SECTION 7: HANDLING AND STORAGE**

7.1. PRECAUTIONS FOR SAFE HANDLING:  
THIS PRODUCT SHOULD BE STORED WELL OUT OF REACH OF YOUNG CHILDREN AND KEPT  
SAFELY APART FROM PRODUCTS INTENDED FOR CONSUMPTION. WHEN USING, PLACE THE  
PRODUCT ON AN INCOMBUSTIBLE BASE AND CHECK THAT THE PRODUCT HAS GONE OUT  
COMPLETELY BEFORE IT IS DISCARDED.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:  
HANDLE IN PREMISES WITH MODERN VENTILATION STANDARDS, STORE IN A DRY  
PLACE.

MUST NOT BE STORED IN THE VICINITY OF COMBUSTIBLE MATERIAL.

KEEP AWAY FROM MOISTURE.

STORE ONLY IN THE ORIGINAL PACKAGE.

7.3. SPECIFIC END USES: NOT RELEVANT.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**



8.1. CONTROL PARAMETERS:

8.1.1. NATIONAL LIMIT VALUES, UNITED KINGDOM:  
ALL INGREDIENTS (CF. SECTION 3) LACK OCCUPATIONAL EXPOSURE LIMIT VALUES.

8.2. EXPOSURE CONTROLS:  
IN TERMS OF MINIMIZING RISKS, ATTENTION MUST BE PAID TO THE HEALTH HAZARDS (SEE SECTIONS 2, 3 AND 10) OF THIS PRODUCT OR ANY OF ITS INGREDIENTS ACCORDING TO EU DIRECTIVES 89/391 AND 98/24 AND NATIONAL OCCUPATIONAL LEGISLATION.

EYE PROTECTION SHOULD BE WORN IF THERE IS ANY DANGER OF DIRECT EXPOSURE OR SPLASHING.

DUST FILTER IIB (P2) MAY BE REQUIRED.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

A) APPEARANCE:

FORM: SOLID ARTICLE

COLOUR: WHITE

B) ODOUR: NO SMELL OR UNCHARACTERISTIC SMELL

C) ODOUR THRESHOLD: NOT APPLICABLE

D) PH: NOT APPLICABLE

E) MELTING POINT/FREEZING POINT: NOT APPLICABLE

F) INITIAL BOILING POINT AND BOILING RANGE: NOT APPLICABLE

G) FLASH POINT: NOT APPLICABLE

H) EVAPORATION RATE: NOT APPLICABLE

I) FLAMMABILITY (SOLID, GAS): NOT APPLICABLE

J) UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: NOT APPLICABLE

K) VAPOUR PRESSURE: NOT APPLICABLE

L) VAPOUR DENSITY: NOT APPLICABLE

M) RELATIVE DENSITY: NOT APPLICABLE

N) SOLUBILITY: NOT APPLICABLE

O) PARTITION COEFFICIENT N-OCTANOL/WATER: NOT APPLICABLE

- P) AUTO-IGNITION TEMPERATURE: >200 DEG. C
- Q) DECOMPOSITION TEMPERATURE: NOT APPLICABLE
- R) VISCOSITY: NOT APPLICABLE
- S) EXPLOSIVE PROPERTIES: NOT APPLICABLE
- T) OXIDISING PROPERTIES: NOT APPLICABLE
- 9.2. OTHER INFORMATION: NO DATA AVAILABLE

## **SECTION 10: STABILITY AND REACTIVITY**

- 10.1. REACTIVITY:  
THE PRODUCT CONTAINS NO SUBSTANCES WHICH CAN LEAD TO HAZARDOUS REACTIONS AT NORMAL USE.
- 10.2. CHEMICAL STABILITY:  
THE PRODUCT IS STABLE AT NORMAL STORAGE AND HANDLING CONDITIONS.
- 10.3. POSSIBILITY OF HAZARDOUS REACTIONS: NOT INDICATED
- 10.4. CONDITIONS TO AVOID: AVOID HEAT, SPARKS AND OPEN FLAMES.
- 10.5. INCOMPATIBLE MATERIALS: AVOID MIXING WITH ORGANIC MATERIAL.
- 10.6. HAZARDOUS DECOMPOSITION PRODUCTS: NOT INDICATED

## **SECTION 11: TOXICOLOGICAL INFORMATION**

- 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS:
- GENERAL OR UNSPECIFIC TOXICITY: NOT INDICATED
- ACUTE EFFECTS:  
THE MIXTURE HAS NOT BEEN TESTED AS A WHOLE BUT CONSIDERED TO BE A NON-ACUTELY TOXIC SUBSTANCE, BASED ON THE FULL INFORMATION ON THE TOXICITY OF ALL THE INGREDIENTS.
- HARMFULNESS: THE PRODUCT IS A HEALTH HAZARD.
- CORROSIVE AND IRRITATING EFFECTS:  
IRRITANT ON EYES, SKIN, MUCOUS MEMBRANES AND THE UPPER RESPIRATORY TRACT.
- RELEVANT TOXICOLOGICAL PROPERTIES:
- POTASSIUM CHLORATE:  
LD50 RABBIT 24H: >2000 MG/KG  
LD50 RAT 24H: 1870 MG/KG
- AMMONIUM CHLORIDE:  
LD50 RAT 24H: 1650 MG/KG

## **SECTION 12: ECOLOGICAL INFORMATION**

12.1. TOXICITY:

CONTAINS SUBSTANCE THAT IS TOXIC TO HERBS. PREVENT DISCHARGE TO SOIL, WATER AND AIR.

FOR ENVIRONMENTAL IMPACT, SEE ALSO SECTION 2.

12.2. PERSISTENCE AND DEGRADABILITY:

NO INFORMATION ABOUT PERSISTENCE OR DEGRADABILITY EXISTS BUT THERE IS NO REASON TO SUPPOSE THAT THE PRODUCT IS PERSISTENT.

12.3. BIOACCUMULATIVE POTENTIAL:

NO INFORMATION EXISTS ON BIOACCUMULATION, BUT THERE IS NO CAUSE FOR CONCERN IN RESPECT OF THIS.

12.4. MOBILITY IN SOIL:

NO INFORMATION ABOUT MOBILITY IN THE NATURE EXISTS BUT THERE IS NO REASON TO SUPPOSE THE PRODUCT TO BE ECOLOGICALLY HARMFUL BECAUSE OF THIS.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT:

NO CHEMICAL SAFETY REPORT HAS BEEN EXECUTED.

12.6. OTHER ADVERSE EFFECTS: NOT INDICATED

### **SECTION 13: DISPOSAL CONSIDERATIONS**

13.1. WASTE TREATMENT METHODS:

WASTE HANDLING FOR THE PRODUCT:

THE PRODUCT AFTER USE IS NOT CLASSED AS HAZARDOUS WASTE. UNUSED OR BROKEN PRODUCTS ARE CLASSED AS HAZARDOUS WASTE. CF. ALSO NATIONAL WASTE REGULATIONS.

CLASSIFICATION ACCORDING TO 2006/12:

RECOMMENDED LOW-CODE:

16 03 03 INORGANIC WASTES CONTAINING DANGEROUS SUBSTANCES.

RECYCLING OF THE PRODUCT: NOT INDICATED

### **SECTION 14: TRANSPORT INFORMATION**

WHERE NOT OTHERWISE STATED THE INFORMATION APPLIES TO ALL OF THE UN MODEL REGULATIONS, I.E. ADR (ROAD), RID (RAILWAY), ADN (INLAND WATERWAYS), IMDG (SEA), AND ICAO (IATA) (AIR).

14.1. UN NUMBER: NOT CLASSIFIED AS DANGEROUS GOODS

14.2. UN PROPER SHIPPING NAME: NOT APPLICABLE

14.3. TRANSPORT HAZARD CLASS(ES): NOT APPLICABLE

14.4. PACKING GROUP: NOT APPLICABLE

14.5. ENVIRONMENTAL HAZARDS: NOT APPLICABLE

14.6. SPECIAL PRECAUTIONS FOR USER: NOT APPLICABLE

14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL73/78 AND THE IBC

CODE: NOT APPLICABLE

14.8 OTHER TRANSPORT INFORMATION:  
STOWAGE CATEGORY NOT INDICATED.  
EMERGENCY SCHEDULE (EMS) FOR FIRE (IMDG) NOT INDICATED.  
EMERGENCY SCHEDULE (EMS) FOR SPILLAGE (IMDG) NOT INDICATED.

## **SECTION 15: REGULATORY INFORMATION**

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE: NOT APPLICABLE.

15.2. CHEMICAL SAFETY ASSESSMENT:  
ASSESSMENT AND CHEMICAL SAFETY REPORT IN ACCORDANCE WITH 1907/2006 ANNEX I HAS NOT YET BEEN PERFORMED.

## **SECTION 16: OTHER INFORMATION**

16A. INDICATION OF WHERE CHANGES HAVE BEEN MADE TO THE PREVIOUS VERSION OF THE SAFETY DATA SHEET REVISIONS OF THIS DOCUMENT:

EARLIER VERSIONS:

2012-05-28:

REVISIONS OF THIS DOCUMENT HAS, WHERE NOT OTHERWISE STATED, BEEN CAUSED BY CHANGES IN THE REGULATIONS

16B. LEGEND TO ABBREVIATIONS AND ACRONYMS USED IN THE SAFETY DATA SHEET:

FULL TEXTS FOR HAZARD CLASS AND CATEGORY CODE MENTIONED IN SECTION 3:

AQUATIC CHRONIC 2:

TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS (CATEGORY CRON 2)

ACUTE TOX 4DUST: ACUTE TOXICITY (CATEGORY 4 DUST)

ACUTE TOX 4ORAL: ACUTE TOXICITY (CATEGORY 4 ORAL)

OX SOL 1: OXIDISING SOLIDS (VERIFIED CATEGORY 1)

NO PHYS HAZ: NON-ASSIGNED PHYSICAL HAZARD

EYE IRRIT 2: IRRITATES EYES (CATEGORY 2)

COMPREHENSIVE DEFINITION OF THE HAZARDS MENTIONED IN SECTION 2:

EYE IRRIT 2:

IF, WHEN APPLIED TO THE EYE OF AN ANIMAL, A SUBSTANCE PRODUCES AT LEAST IN 2 OF 3 TESTED ANIMALS, A POSITIVE RESPONSE OF:

CORNEAL OPACITY:  $\geq 1$  AND/OR

IRITIS:  $\geq 1$ , AND/OR

CONJUNCTIVAL REDNESS:  $\geq 2$  AND/OR

CONJUNCTIVAL OEDEMA (CHEMOSIS):  $\geq 2$

CALCULATED AS THE MEAN SCORES FOLLOWING GRADING AT 24, 48 AND 72 HOURS AFTER INSTALLATION OF THE TEST MATERIAL, AND WHICH FULLY REVERSES WITHIN AN OBSERVATION PERIOD OF 21 DAYS

AQUATIC CHRONIC 2:

CHRONIC (LONG-TERM) AQUATIC HAZARD:



96 HR LC50 (FOR FISH): 1-10 MG/L AND/OR

48 HR EC50 (FOR CRUSTACEA): 1-10 MG/L AND/OR

72 OR 96 HR ERC50 (FOR ALGAE OR OTHER AQUATIC PLANTS):  
1-10 MG/L AND THE SUBSTANCE IS NOT RAPIDLY BIODEGRADABLE AND/OR THE  
EXPERIMENTALLY DETERMINED BCF  $\geq 500$  (OR, IF ABSENT, THE LOG KOW  $\geq 4$ ),  
UNLESS THE CHRONIC TOXICITY NOECs ARE  $>1$  MG/L

EXPLANATIONS OF THE ABBREVIATIONS IN SECTION 14:

ADR:

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS  
GOODS BY ROAD

RID:

REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS BY  
RAIL

ADN:

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS  
BY INLAND WATERWAYS

IMDG: INTERNATIONAL MARITIME DANGEROUS GOODS CODE

ICAO:

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO, 999 UNIVERSITY STREET,  
MONTREAL, QUEBEC H3C 5H7, CANADA)

IATA: THE INTERNATIONAL AIR TRANSPORT ASSOCIATION

16C. KEY LITERATURE REFERENCES AND SOURCES FOR DATA:

SOURCES FOR DATA:

PRIMARY DATA FOR THE CALCULATION OF THE HAZARDS HAS PREFERENTIALLY BEEN  
TAKEN FROM THE OFFICIAL EUROPEAN CLASSIFICATION LIST, 1272/2008 ANNEX I,  
AS UPDATED TO 2013-10-11.

WHERE SUCH DATA WAS LACKING, ON THE SECOND HAND THE DOCUMENTATION ON WHICH  
THIS OFFICIAL CLASSIFICATION IS BASED WAS USED, E.G. IUCLID (INTERNATIONAL  
UNIFORM CHEMICAL INFORMATION DATABASE). ON THE THIRD HAND, INFORMATION WAS  
USED FROM REPUTABLE INTERNATIONAL CHEMICAL SUPPLIERS, AND ON THE FOURTH  
HAND FROM OTHER AVAILABLE INFORMATION, E.G. SAFETY DATA SHEETS FROM OTHER  
SUPPLIERS OR INFORMATION FROM NON-PROFIT ASSOCIATIONS, WHEREBY THE  
RELIABILITY OF THE SOURCE WAS JUDGED BY AN EXPERT. IF, IN SPITE OF THIS,  
RELIABLE INFORMATION WAS NOT FOUND, THE HAZARDS WERE JUDGED BY EXPERT  
OPINIONS BASED ON THE KNOWN PROPERTIES OF SIMILAR SUBSTANCES, AND ACCORDING  
TO THE PRINCIPLES IN 1907/2006 AND 1272/2008.

FULL TEXTS FOR REGULATIONS MENTIONED IN THIS SAFETY DATA SHEET:

453/2010:

COMMISSION REGULATION (EU) NO 453/2010 OF 20 MAY 2010 AMENDING REGULATION  
(EC) NO 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON THE  
REGISTRATION, EVALUATION, AUTHORISATION AND RESTRICTION OF CHEMICALS  
(REACH)

1272/2008:

REGULATION (EC) NO 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
OF 16 DECEMBER 2008 ON CLASSIFICATION, LABELLING AND PACKAGING OF  
SUBSTANCES AND MIXTURES, AMENDING AND REPEALING DIRECTIVES 67/548/EEC AND  
1999/45/EC, AND AMENDING REGULATION (EC) NO 1907/2006

1999/45/EG:

DIRECTIVE 1999/45/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 31

MAY 1999 CONCERNING THE APPROXIMATION OF THE LAWS, REGULATIONS AND ADMINISTRATIVE PROVISIONS OF THE MEMBER STATES RELATING TO THE CLASSIFICATION, PACKAGING AND LABELLING OF DANGEROUS PREPARATIONS

89/391:

COUNCIL DIRECTIVE (89/391/EEC OF 12 JUNE 1989 ON THE INTRODUCTION OF MEASURES TO ENCOURAGE IMPROVEMENTS IN THE SAFETY AND HEALTH OF WORKERS AT WORK

98/24:

COUNCIL DIRECTIVE 98/24/EC OF 7 APRIL 1998 ON THE PROTECTION OF THE HEALTH AND SAFETY OF WORKERS FROM THE RISKS RELATED TO CHEMICAL AGENTS AT WORK (FOURTEENTH INDIVIDUAL DIRECTIVE WITHIN THE MEANING OF ARTICLE 16(1) OF DIRECTIVE 89/391/EEC)

2006/12:

DIRECTIVE 2006/12/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 5 APRIL 2006 ON WASTE

1907/2006:

REGULATION (EC) NO 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006 CONCERNING THE REGISTRATION, EVALUATION, AUTHORISATION AND RESTRICTION OF CHEMICALS (REACH), ESTABLISHING A EUROPEAN CHEMICALS AGENCY, AMENDING DIRECTIVE 1999/45/EC AND REPEALING COUNCIL REGULATION (EEC) NO 793/93 AND COMMISSION REGULATION (EC) NO 1488/94 AS WELL AS COUNCIL DIRECTIVE 76/769/EEC AND COMMISSION DIRECTIVES 91/155/EEC, 93/67/EEC, 93/105/EC AND 2000/21/EC ANNEX I

16D. METHODS OF EVALUATING INFORMATION REFERRED TO IN 1272/2008 ARTICLE 9 WHICH WAS USED FOR THE PURPOSE OF CLASSIFICATION:  
THE CALCULATION OF THE HAZARDS OF THIS MIXTURE HAS BEEN PERFORMED AS AN EVALUATION BY APPLYING A WEIGHT OF EVIDENCE DETERMINATION USING EXPERT JUDGEMENT IN ACCORDANCE WITH 1272/2008 ANNEX I, WEIGHING ALL AVAILABLE INFORMATION HAVING A BEARING ON THE DETERMINATION OF THE HAZARDS OF THE MIXTURE, AND IN ACCORDANCE WITH 1907/2006 ANNEX XI.

16E. LIST OF RELEVANT R PHRASES, HAZARD STATEMENTS, SAFETY PHRASES AND/OR PRECAUTIONARY STATEMENTS:

FULL TEXT FOR RISK PHRASES MENTIONED IN SECTION 3:  
R9: EXPLOSIVE WHEN MIXED WITH COMBUSTIBLE MATERIAL

R20/22: HARMFUL BY INHALATION AND IF SWALLOWED

R51/53:  
TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

R22: HARMFUL IF SWALLOWED

R36: IRRITATING TO EYES

FULL TEXTS FOR HAZARD STATEMENTS MENTIONED IN SECTION 3:

H411: TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS

H332: HARMFUL IF INHALED

H302: HARMFUL IF SWALLOWED

H271: MAY CAUSE FIRE OR EXPLOSION; STRONG OXIDIZER

H319: CAUSES SERIOUS EYE IRRITATION

16F. ADVICE ON ANY TRAINING APPROPRIATE FOR WORKERS TO ENSURE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT:

OTHER RELEVANT INFORMATION:

LABEL INFORMATION IN ACCORDANCE WITH 1999/45/EG:

HAZARD SYMBOL:

HARMFUL

HAZARDOUS TO THE AQUATIC ENVIRONMENT

R-PHRASES:

R20/22: HARMFUL BY INHALATION AND IF SWALLOWED

R36: IRRITATING TO EYES

R51/53:

TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE  
AQUATIC ENVIRONMENT

S-PHRASES:

S22: DO NOT BREATHE DUST

S25: AVOID CONTACT WITH EYES

S26:

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND  
SEEK MEDICAL ADVICE

S29: DO NOT EMPTY INTO DRAINS

S37: WEAR SUITABLE GLOVES

S46:

IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THIS CONTAINER OR  
LABEL

EDITORIAL INFORMATION:

THIS SAFETY DATA SHEET HAS BEEN GENERATED BY THE PROGRAM KEMRISK(R\*),  
KEMRISK SWEDEN AB, TEKNIKRINGEN 10, SE-583 30 LINKOPING, SWEDEN.

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