



## SAFETY DATA SHEET

### Start-up Shock

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

#### 1. Identification

##### Product identifier

<b>Product name</b>	Start-up Shock
<b>Chemical name</b>	Sodium dichloroisocyanurate ; NaDCCA Dichlor; Sodium dichloro-s-triazinetriene; Chloroisocyanurate
<b>Synonyms; trade names</b>	FROG Jump Start®
<b>EPA Registration Number</b>	53735-12

##### Recommended use of the chemical and restrictions on use

<b>Application</b>	Swimming pools, spas, hot tubs disinfectant; spa and hot tub shock
<b>Uses advised against</b>	Use only for intended applications.

##### Details of the supplier of the safety data sheet

<b>Supplier</b>	King Technology, Inc. 530 11th Ave S Hopkins, MN 55343 United States 1+ (952) 933-6118 sdsinfo@kingtechnology.com
-----------------	--

##### Emergency telephone number

<b>Emergency telephone</b>	CHEMTREC 800-424-9300 (24 hours)
----------------------------	----------------------------------

#### 2. Hazard(s) identification

##### Classification of the substance or mixture

<b>OSHA Regulatory Status</b>	The below environmental hazard classification is non-mandatory under the OSHA Hazard Communication Standard. The environmental classification is according to the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 8th revised edition, 2019.
<b>Physical hazards</b>	Ox. Sol. 2 - H272
<b>Health hazards</b>	Acute Tox. 3 - H331 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335
<b>Environmental hazards</b>	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

##### Label elements

##### Hazard symbols



Signal word

Danger

## Start-up Shock

### Hazard statements

H272 May intensify fire; oxidizer.  
 H331 Toxic if inhaled.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H335 May cause respiratory irritation.  
 H410 Very toxic to aquatic life with long lasting effects.

### Precautionary statements

P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.  
 P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.  
 P220 Keep away from combustible materials.  
 P221 Take any precaution to avoid mixing with combustibles.  
 P261 Avoid breathing dust.  
 P264 Wash contaminated skin thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P302+P352 If on skin: Wash with plenty of water.  
 P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a poison center/ doctor.  
 P311 Call a poison center/ doctor.  
 P312 Call a poison center/ doctor if you feel unwell.  
 P321 Specific treatment (see medical advice on this label).  
 P332+P313 If skin irritation occurs: Get medical advice/ attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.  
 P391 Collect spillage.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/ container in accordance with national regulations.

### Contains

Sodium dichloroisocyanurate

### Other hazards

### Other

No additional hazards known.  
 «46»% of the mixture consists of ingredient(s) of unknown acute toxicity.

## 3. Composition/information on ingredients

### Mixtures

<b>Citric acid</b> CAS number: 77-92-9	<b>36%</b>
<b>Classification</b> Eye Irrit. 2A - H319	

## Start-up Shock

<b>Sodium dichloroisocyanurate</b>		<b>33%</b>
CAS number: 2893-78-9		
M factor (Acute) = 1	M factor (Chronic) = 1	
<b>Classification</b>		
Ox. Sol. 2 - H272		
Acute Tox. 4 - H302		
Acute Tox. 2 - H330		
Skin Corr. 1C - H314		
Eye Dam. 1 - H318		
STOT SE 3 - H335		
Aquatic Acute 1 - H400		
Aquatic Chronic 1 - H410		

The full text for all hazard statements is displayed in Section 16.

### 4. First-aid measures

#### Description of first aid measures

<b>General information</b>	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Keep affected person under observation. Get medical attention if symptoms are severe or persist.
<b>Skin Contact</b>	Rinse with water.
<b>Eye contact</b>	Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.
<b>Protection of first aiders</b>	It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

#### Most important symptoms and effects, both acute and delayed

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.
<b>Ingestion</b>	May cause irritation.
<b>Skin contact</b>	Redness. Irritating to skin.
<b>Eye contact</b>	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

#### Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically. Keep affected person under observation.
-----------------------------	--

## Start-up Shock

### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** Water. The product is not flammable.

**Unsuitable extinguishing media** Do not use the following: Dry chemicals. Carbon dioxide (CO<sub>2</sub>). Ammonia.

#### Special hazards arising from the substance or mixture

**Specific hazards** May cause or intensify fire; oxidizer. This product is toxic.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapors.

#### Advice for firefighters

**Protective actions during firefighting** Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. May cause or intensify fire; oxidizer. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

### 6. Accidental release measures

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

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust. Use suitable respiratory protection if ventilation is inadequate.

#### Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

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

**Methods for cleaning up** Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Do not use sawdust or other combustible material. Provide adequate ventilation. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

CAUTION: Do not use floor sweeping compounds.

**Reference to other sections** For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## Start-up Shock

### 7. Handling and storage

#### Precautions for safe handling

##### Usage precautions

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. This product is toxic. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

##### Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

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

##### Storage precautions

Store away from incompatible materials (see Section 10). Store locked up. Keep away from flammable and combustible materials. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

##### Storage class

Oxidizer storage.

#### Specific end uses(s)

##### Specific end use(s)

The identified uses for this product are detailed in Section 1.

### 8. Exposure controls/Personal protection

#### Control parameters

#### Occupational exposure limits

Not applicable.

#### Exposure controls

##### Protective equipment



##### Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

##### Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

##### Hand protection

Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

##### Other skin and body protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

##### Hygiene measures

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

## Start-up Shock

<b>Respiratory protection</b>	Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Solid. Granules.
<b>Color</b>	White.
<b>Odor</b>	Chlorine.
<b>Odor threshold</b>	No information available.
<b>pH</b>	pH (diluted solution): 4.75 1%
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	No information available.
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	No information available.
<b>Other flammability</b>	No information available.
<b>Vapor density</b>	Granular (tap): 1.05 g/ml Granular (pour): 0.958 g/ml
<b>Relative density</b>	> 1
<b>Bulk density</b>	No information available.
<b>Solubility(ies)</b>	No information available.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	No information available.

### 10. Stability and reactivity

<b>Reactivity</b>	See the other subsections of this section for further details.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

## Start-up Shock

<b>Possibility of hazardous reactions</b>	No potentially hazardous reactions known.
<b>Conditions to avoid</b>	Avoid contact with water or moisture until ready for use. Avoid exposure to high temperatures or direct sunlight. Keep at temperature not exceeding 40°C/104°F.
<b>Materials to avoid</b>	Reducing agents. Flammable/combustible materials. Hydrocarbons. Organic cyanides (nitriles). Esters. Some metals. Ammonia. Alkalis. Oxidizing agents.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Chlorine. Hydrogen chloride (HCl). Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Nitrous gases (NO <sub>x</sub> ).

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE oral (mg/kg)** 5,474.47

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

##### Acute toxicity - inhalation

##### **Summary**

This material in the form as sold is not expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper and lower airways, coughing, laryngeospasm and edema, shortness of breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may develop several hours after a severe acute exposure.

**Notes (inhalation LC<sub>50</sub>)** Acute Tox. 3 - H331 Toxic if inhaled.

**ATE inhalation (dusts/mists mg/l)** 0.77

##### Skin corrosion/irritation

**Animal data** Irritating.

##### Serious eye damage/irritation

**Serious eye damage/irritation** Eye Dam. 1 - H318 Causes serious eye damage.

##### Respiratory sensitization

**Respiratory sensitization** Based on available data the classification criteria are not met.

##### Skin sensitization

**Skin sensitization** Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

##### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

**IARC carcinogenicity** None of the ingredients are listed.

## Start-up Shock

**NTP carcinogenicity** None of the ingredients are listed.

**OSHA Carcinogenicity** None of the ingredients are listed.

### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development** Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

**STOT - single exposure** STOT SE 3 - H335 May cause respiratory irritation.

**Target organs** Respiratory system, lungs

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

### Aspiration hazard

**Aspiration hazard** Not relevant. Solid.

**General information** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.

**Ingestion** May cause irritation.

**Skin Contact** Redness. Irritating to skin.

**Eye contact** Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

**Route of exposure** Ingestion Inhalation Skin and/or eye contact

**Target Organs** Respiratory system, lungs

## 12. Ecological information

**Toxicity** Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

### Persistence and degradability

**Persistence and degradability** The degradability of the product is not known.

### Bioaccumulative potential

**Bio-Accumulative Potential** No data available on bioaccumulation.

**Partition coefficient** No information available.

### Mobility in soil

**Mobility** No data available.

### Other adverse effects

**Other adverse effects** None known.



## Start-up Shock

### 13. Disposal considerations

#### Waste treatment methods

##### General information

The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

##### Disposal methods

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

### 14. Transport information

##### General

In small packages, such as most consumer sizes, the products may be eligible for limited quantity exceptions. Details depend on package and mode of transport. If shipped in larger quantities, product is fully regulated as defined below.

##### UN Number

UN No. (DOT) UN2465

##### UN proper shipping name

Proper shipping name (DOT) DICHLOROISOCYANURIC ACID, DRY, MIXTURE

##### Transport hazard class(es)

DOT hazard class 5.1

DOT hazard label 5.1

##### DOT transport labels



##### Packing group

DOT packing group II

### 15. Regulatory information

##### United States FIFRA - Pesticide Labeling

This product is a US EPA FIFRA registered pesticide (EPA Reg. No.: 53735-12) and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required for an OSHA GHS SDS. The following is the hazard information as required on the FIFRA label:

##### Signal Word

DANGER

##### Hazard Statements

- Corrosive. Causes irreversible eye damage and skin burns
- Harmful if swallowed or absorbed through skin
- May be fatal if inhaled
- Irritating to nose and throat
- STRONG OXIDIZING AGENT
- This pesticide is toxic to fish and aquatic organisms
- Keep out of reach of children

## Start-up Shock

### US Federal Regulations

#### **SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

Not applicable.

#### **CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

Not applicable.

#### **SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

Not applicable.

#### **SARA 313 Emission Reporting**

2893-78-9

#### **CAA Accidental Release Prevention**

Not applicable.

#### **FDA - Essential Chemical**

Not applicable.

#### **FDA - Precursor Chemical**

Not applicable.

#### **SARA (311/312) Hazard Categories**

Acute

Oxidizer (liquid, solid or gas)

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

#### **OSHA Highly Hazardous Chemicals**

Not applicable.

### US State Regulations

#### **California Proposition 65 Carcinogens and Reproductive Toxins**

None of the ingredients are listed.

#### **California Air Toxics "Hot Spots" (A-I)**

Not applicable.

#### **California Air Toxics "Hot Spots" (A-II)**

Not applicable.

#### **California Directors List of Hazardous Substances**

Not applicable.

**California Hazardous Waste Control Law**     The following ingredients are listed: CAS 2893-78-9 (SODIUM DICHLOROISOCYANURATE)

#### **Massachusetts "Right To Know" List**

2893-78-9

#### **Rhode Island "Right To Know" List**

2893-78-9

#### **Minnesota "Right To Know" List**

Not applicable.

#### **New Jersey "Right To Know" List**

2893-78-9

## Start-up Shock

### Pennsylvania "Right To Know" List

2893-78-9

#### Inventories

##### US - TSCA

All the ingredients are listed or exempt.

##### US - TSCA 12(b) Export Notification

Not applicable.

#### 16. Other information

##### Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.

ICAO: Technical instructions for the safe transport of dangerous goods by air.

IMDG: International maritime dangerous goods.

CAS: Chemical abstracts service.

ATE: Acute toxicity estimate.

LC<sub>50</sub>: Lethal concentration to 50 % of a test population.LD<sub>50</sub>: Lethal dose to 50% of a test population (median lethal dose).EC<sub>50</sub>: 50% of maximal effective concentration.

PBT: Persistent, bioaccumulative and toxic substance.

vPvB: Very persistent and very bioaccumulative.

##### Classification abbreviations and acronyms

Ox. Sol. = Oxidising solid

Acute Tox. = Acute toxicity

Eye Dam. = Serious eye damage

Skin Irrit. = Skin irritation

STOT SE = Specific target organ toxicity-single exposure

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

##### Revision date

09/15/2021

##### Revision

04

##### SDS No.

4832

##### Hazard statements in full

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

The information provided on the SDS is correct to the best of our knowledge, information, and belief at the date of this 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.