



## DRY ICE QUALITY MANUAL

Form Number: 1-ALL-QA-3000-M

Revision: 0

Effective Date: 01/19/2018

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# DRY ICE QUALITY MANUAL

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



## DRY ICE QUALITY MANUAL

Form Number: 1-ALL-QA-3000-M

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### SCOPE:

***This manual serves to outline Reliant's quality standards for producing, packaging, and handling of dry ice. Everyone within the Reliant family is expected to follow these standards and receive training if their job duties include activities involving dry ice stated previously.***

Dry Ice is an expendable refrigerant, which is often placed directly onto or mixed into food products. The dry ice industry is not currently regulated by USDA or other governmental agencies; however, Reliant believes that, since a portion of its product is sometimes considered a food ingredient, self-regulation to the high standards set forth herein, our Quality Manual is essential.

### PROCEDURES:

1. 1-ALL-QA-5000-SOP - Carbon Dioxide Dry Ice Quality
2. 1-ALL-QA-5001-SOP - Quality Control Record Procedure
3. 1-ALL-QA-5002-SOP - Product Recall Policy and Procedure
4. 1-ALL-QA-5003-SOP - Non-Conformance Procedure
5. 1-ALL-QA-5004-SOP - Dry Ice Specification Quality Statement
6. 1-ALL-QA-5005-SOP - Dry Ice Box Handling
7. 1-ALL-QA-5006-SOP - Box Washing
8. 1-ALL-QA-5007-SOP - Packing of Rice Used for Ice Blasting
9. 1-ALL-QA-5008-SOP - Numbering of Boxes

### FORMS:

1. 1-ALL-QA-1000-F - Melt Test Record
2. 1-ALL-QA-1001-F - Dry Ice Production Daily Log
3. 1-ALL-QA-1002-F - Driver Load Out Log ICE
4. 1-ALL-QA-1003-F - Box Tracking By Load
5. 1-ALL-QA-1004-F - Non-Conformance Form
6. 1-ALL-QA-1005-F - Certificate of Analysis
7. 1-ALL-QA-1006-F - Box Wash and Inspection Sheet
8. 1-ALL-QA-1007-F - Box Numbering Log
9. Inspector's Choice SDS 07-Aug-2015
10. SANI-T-10 SDS 27-Jul-2015

MANDATORY FORM

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## CARBON DIOXIDE DRY ICE QUALITY-STANDARD OPERATING PROCEDURE

Form Number: 1-ALL-QA-5000-SOP

Revision: 0

Effective Date: 01/19/2018

Page: 1/1

Prepared By: Tim Busby

Approved By: Josh Jones

### Purpose:

To define the procedure for the production and inspection of carbon dioxide Dry Ice (DI).

### Materials and/or Equipment:

Hard hats, safety glasses, ear protection, steel toe shoes, leather or cotton gloves, well ventilated area, pelletizer, a clean shovel and boxes for dry ice.

### Safety Considerations:

Always wear required PPE. Refer to SDS for necessary precautions. Be sure to be in a well-ventilated area. Use a clean shovel to move product in the box.

### Responsibilities:

Plant managers, plant operators, ice operators are responsible for the production of pellets. Each box will have a quality seal with quality control information on it.

### Procedures:

- ROTARY STYLE UNITS: Refer to Start-up Procedure.
- EXTRUDER STYLE UNITS: Refer to Start-up Procedure.
- Quality Checks:
  1. Look at pellet and make sure it does not have lines marked across it as if it is cracked.
  2. Drop a pellet on the floor from waist level. If it shatters, it is too soft. If it stays in one piece, it is a good pellet.
  3. Step on a pellet and if it crumbles, it is too soft. The pellet should hold together with pressure on it.
  4. Regular inspections of pellets should be made in accordance with the [1-ALL-QA-5004-SOP Dry Ice Specification](#) procedure. Operators should check ice hourly during production in both boxes or conveyors.
- MELT TESTS:

The product from each pellet machine is tested once every 8-hour shift. The samples consisting of approximately ten (10) ounces each are allowed to sublime (accelerated by an external heat source). After complete sublimation, the sample container is inspected for any particulate, residue or foreign material. If any is found, production is stopped until a cause is found and corrected. All contaminated product is discarded. Test results are maintained in a file at the plant. In addition, operators are trained to frequently inspect the product visually as the containers are being filled. Any unusual observations are to be reported to the Plant Manager immediately. All tests will be recorded on [1-ALL-QA-1000-F Melt Test Record Result Form](#).
- ROTARY, EXTRUDER PELLETIZERS, PRESSES:

Any abnormal operation of these units will result in a shutdown of the unit and immediate contact with Plant manager and then Dry Ice Operation Manager. The unit will not be put back into operation until written authorization is given from the Dry Ice Operation Manager and specific issues are resolved. Once the unit is restarted sensory inspections of the ice will be made at least every 15 minutes to assure ice quality meets the specification since issues can be intermittent. These will continue until written authorization to stop is given from the Dry Ice operation manager.

### Attachments and Reference Forms:

Attachment A: [1-ALL-QA-1000-F Melt Test Record](#)

### MANDATORY FORM

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## QUALITY CONTROL RECORD PROCEDURE- STANDARD OPERATING PROCEDURE

Form Number: 1-ALL-QA-5001-SOP

Revision: 0

Effective Date: 01/19/2018

Page: 1/1

Prepared By: Tim Busby

Approved By: Josh Jones

### Purpose:

This defines the proper procedure for the logging of finished product for shipment and traceability.

### Safety Considerations:

Always wear required PPE. Refer to SDS for necessary precautions. Be sure to be in a well-ventilated area.

### Responsibilities:

Plant personnel are responsible for understanding this procedure, abiding by it and discussing with manager any discrepancies or proposed changes. Managers are responsible for training, documentation, and overall management of the system. Procedure should be reviewed as needed and revised accordingly.

### Procedures:

1. Place lid on box and seal it. Wrap the lid and box together with stretch wrap.
2. Fill out the Quality Control Record label completely.
3. Place this Quality Control Record label on the box.
4. Take box to scale to be weighed.
5. Log the box on the [1-ALL-QA-1001-F Dry Ice Production Daily Log](#).
6. Take the box to staging for shipment.
7. Turn in Production Log to plant manager.
8. When depot drivers pick up product, box numbers and weight(s) are to be logged on the [1-ALL-QA-1002-F Driver Load out Log](#).
9. Refer to [1-ALL-QA-5002-SOP Dry Ice Traceability](#) section as well.
10. Plant or Depot to fill-out [1-ALL-QA-1003-F Box Tracking by Load](#) on each load.

### Contingencies:

Any problems should be reported to the plant manager immediately.

### Reviews and Revisions:

This procedure shall be reviewed for compliance and effectiveness and revised as necessary (or at a specified interval).

### Attachments and Reference Forms:

Attachment A: [1-ALL-QA-1001-F Dry Ice Production Daily Log](#)

Attachment B: [1-ALL-QA-1002-F Driver Load Out Log](#)

Attachment C: [1-ALL-QA-1003-F Box Tracking by Load](#)

MANDATORY FORM

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**PRODUCT RECALL POLICY AND  
PROCEDURE-STANDARD OPERATING  
PROCEDURE**

Form Number: 1-ALL-QA-5002-SOP  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/3

Prepared By: Tim Busby

Approved By: Josh Jones

#### STATEMENT OF PURPOSE

Reliant Dry Ice recognizes that it may be necessary to recall product that is suspected of having a material quality deficiency, i.e. not conforming to specifications or contaminated by foreign matter. It is the Company's stated policy to provide its customers with an assurance that its action and reaction to any such problem will be as follows.

#### MOCK PRODUCT RECALL AND RECOVERY TESTING

- (1) At least once every 12 months a product recall and recovery test shall be conducted.
- (2) Tests shall simulate recalls for off-spec liquid CO<sub>2</sub> feedstock, metal shavings in dry ice, or other foreign material contamination of the dry ice. Each test shall simulate one of these three types of quality problems.
- (3) Testing will ascertain the amount of contaminated dry ice recovered in the simulation, the amount of elapsed time, and areas of improvement needed.
- (4) Test results will be reviewed by the Plant Manager and the Operations Manager of Reliant Dry Ice. Corrective actions will be documented.

#### RECALL CRISIS COMMUNICATION PLAN

- (1) Crisis communication plans will be documented.
- (2) Customer issues will be addressed.
- (3) Current 24/7 contact lists must be up-to-date and available.
- (4) A designated employee will deal with the media when the media is involved.
- (5) Reliant Dry Ice managers have been trained to deal with recall crises.

#### DRY ICE TRACEABILITY

- (1) When production is initiated, all information will be recorded on [1-ALL-QA-1001-F Dry Ice Production Daily Log](#). Multiple sheets of this form should be used daily if required. This sheet will provide traceability from the Box number to the pelletizer or press which filled it. A few exceptions exist and are explained below:
  - a. If ice is used from another location to make block then that box number will be recorded in the "notes" section to trace product back to its original box # and production facility. Be as descriptive as possible.
  - b. If conveyors move ice from pelletizers to a reformer, etc. then list all units feeding reformers in the "Machine #" column. Add any notes as needed.
- (2) The load number is set forth on the bill of lading and is tracked to include delivery, invoicing and payment.
- (3) Once a BOL is established then all box # for that load will be recorded on [1-ALL-QA-1003-F Box Tracking by Load](#) form. This provides traceability from each customer back to the original production equipment. In the event a depot picks up at the plant they will fill out [1-ALL-QA-1002-F Driver Load out Log](#) and leave a copy with the plant.

MANDATORY FORM

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**PRODUCT RECALL POLICY AND  
PROCEDURE-STANDARD OPERATING  
PROCEDURE**

Form Number: 1-ALL-QA-5002-SOP  
Revision: 0  
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Prepared By: Tim Busby

Approved By: Josh Jones

- (4) Production sheets and bills of lading are retained by Reliant Dry Ice in accordance to Document Retention Policy.
- (5) Records are kept in the plant computer or in hard copy onsite. Critical information such as production sheets and bills of lading are always produced and filed in hard copy.

**PROCEDURE FOR RECALL UPON NOTIFICATION OF SUSPECTED PROBLEM**

- (1) When the customer knows or suspects that a problem with its dry ice exists, Sales must be notified immediately. A record of the date, time, description of the problem, dry ice box number, and the persons giving and taking the information must be noted.
- (2) The customer must co-operate with Reliant Dry Ice in any investigation into the complaint of deficient or contaminated product. Sales will ask the customer to isolate and preserve any suspected product/containers pending the investigation by Reliant Dry Ice of the source of the complaint. Reliant Dry Ice may also use the resources of outside investigation agencies and laboratories in the investigation of the problem.
- (3) Reliant's Dry Ice Salesman will immediately call the customer's designated ordering agent to advise of Reliant Dry Ice's awareness of a potential problem. The Plant Manager will then contact the Operations Manager of Reliant Dry Ice and QC to receive direction in remedying the problem. QC will then be the contact point with customer relating to the specifics causes and contamination.
- (4) If the problem warrants product replacement, arrangements will be made by Sales and QC with the customer(s) affected by the problem for replacement as soon as possible in order to accommodate the customer's schedule for continuing operations.
- (5) If the problem stems from equipment failure of one or more specific pellet machines, production will resume but not with the affected machines. The machine(s) at fault will be thoroughly investigated, the cause will be determined, repairs will be made and they will be placed back in service only after Reliant Dry Ice has a high confidence level that the machines are safe to use.
- (6) If the problem is with the liquid CO<sub>2</sub> feedstock, Reliant Dry Ice will contact its supplier to notify it and to involve it in the investigation of the product deficiency. Reliant Dry Ice may obtain liquid CO<sub>2</sub> from other sources until such problems are remedied.

**TESTING AND SAMPLING OF PRODUCT DEFICIENCIES**

- (1) Any dry ice suspected of contamination should be red tagged, set aside and stretch wrapped with the lid in place on the box. If possible, the Plant Manager will go to the customer location as soon as possible and sample and test the dry ice suspected of contamination. The box with lid will then be returned to Reliant Dry Ice and an out-of-service sign will be placed on the box.
- (2) Clean, lint-free white cloth or filter paper should be used to collect samples of the product. The remaining residue from the sublimated product will separate the contamination, if any, from the suspected contaminated product. These samples should be preserved in a sealed, plastic bag and labeled with the following data:
  - a. Time and date of receipt of contaminated product.
  - b. Name of person collecting and reporting information pursuant to the investigation.
  - c. Description of product and any environmental conditions which may have contributed to the problem.
  - d. Any other information that which may help in the investigation process.

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**PRODUCT RECALL POLICY AND  
PROCEDURE-STANDARD OPERATING  
PROCEDURE**

Form Number: 1-ALL-QA-5002-SOP  
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Page: 3/3

Prepared By: Tim Busby

Approved By: Josh Jones

**CONCLUSION OF INVESTIGATION**

- (1) All reports must be sent to the Operations Manager of Reliant Dry, QC Manager, RDI General Manager and COO, President for review and disposition.

**ATTACHMENT**

*1-ALL-QA-1001-F Dry Ice Production Daily Log*  
*1-ALL-QA-1002-F Driver Load out Log*  
*1-ALL-QA-1003-F Box Tracking by Load*

**MANDATORY FORM**

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**NON-CONFORMANCE-STANDARD  
OPERATING PROCEDURE**

Form Number: 1-ALL-QA-5003-SOP  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/1

Prepared By: Tim Busby

Approved By: Josh Jones

**Purpose:**

To guarantee the highest quality product in the market place by maintaining a quality product and package through identifying and tracking non-compliance issues pending closure.

**Responsibility:** It is the responsibility of every member of the Dry Ice team to ensure a quality product to our customers. Including – Plant Managers, Plant Operators, Depot Personnel, and Transportation/Delivery Drivers.

**Safety Considerations:**

Remove all hazards immediately upon identification. Wear all required PPE.

**Procedure:**

If at any time there is a concern or observation of any Carbon Dioxide, Dry Ice or Box that does not meet specifications follow the following steps and contact the required individuals.

Step 1- Report the non-conformance to your immediate supervisor who in turn will report to his supervisor and so on until.

Step 2- Record the incident on the [1-ALL-QA-1004-F Non-Conformance Form](#).

Step 3- Determine the Root Cause of the incident and corrective actions needed to eliminate the non-conformance.

Step 4- Assign responsibility to an individual and a date for completion of the corrective actions.

Step 5- Close out the event by signing off on the corrective actions and returning the non-conforming product form to Dry Ice Manager to be filed.

**Reporting:**

Plant / Depot Operator → Facility Manager → Facility Manager → Regional Manager → Regional Manager → Director of Dry Ice, Director of Processing → Director of Quality Control

The Director of Quality Control will assist in root cause investigations and corrective action plans.

**Attachment:**

[1-ALL-QA-1004-F Non-Conformance Form](#)

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**DRY ICE SPECIFICATION-STANDARD  
OPERATING PROCEDURE**

Form Number: 1-ALL-QA-5004-SOP  
Revision: 1  
Effective Date: 09/25/2018  
Page: 1/2

Prepared By: Tim Busby

Approved By: Josh Jones

Quality Control Statement

It is Reliant Processing, Ltd.'s goal to deliver products to the market while maintaining an emphasis on our core values of SAFETY and QUALITY.

We make a commitment to understand and utilize leading edge technology to guaranty the quality of final product; including any outside input from entities such as, but not limited to, ISBT, CGA, and NSF 60.

By realizing the need for a quality system, being familiar with each stage of our production and process, and knowing the theory and application behind all analytical equipment available, we will exceed the customer's specifications in the production of Carbon Dioxide.

**It is the responsibility of every member of the Dry Ice Team to ensure a quality product to our customers.**

**Because of this responsibility, please follow the new GMP for the Production Zone-**

1. Hard hats must be worn.
2. Gloves must be worn when working with product.
3. Tobacco products, gum, food and beverages are not allowed.
4. No jewelry is allowed except for wristwatches, wedding bands and medic alerts.
5. False eyelashes, false fingernails and nail polish are prohibited.
6. Items are not allowed in outer pockets above the waist.
7. Authorized persons in this zone are required to comply with the following:
  - Must receive Reliant training if a contractor.
  - Must be escorted by a manager if a visitor.
  - Must comply with GMP zone requirements.
8. No one is allowed in this zone unless authorized by the Plant Manager or his designee.
9. Safety equipment required by Reliant must be worn.
10. Glass products are not allowed.

Parameter	Guideline	Rationale	Frequency
LCO2 Liquid Carbon Dioxide ***	<u>Food Grade</u> or Better	Outside Lab Analysis	Quarterly
Dry Ice Appearance ***	<u>White / Pearlescent</u> Free from insects, dirt and all other debris	Visual Inspection by Plant Operators/Managers and Depot Managers on duty	Operator-every 30min Operator- before wrap Lead Op- every hour Depot- upon delivery
Dry Ice Odor ***	<u>Free from any odor</u> Must present a crisp clean smell	Visual Inspection by Plant Operators/Managers and Depot Managers on duty	Plant-every 30min Plant- before wrap Lead Op- every hour Depot – upon delivery
Dry Ice Boxes <b>CLEAN</b> ***	<u>Clean Appearance</u> Free from insects, dirt and all other debris <i>*See 1-ALL-QA-5006-SOP Box Washing for specifics.</i>	Visual Inspection by Plant Operators/Managers and Depot Managers on duty	Operator –after washing Operator –before fill Lead Op- before shipment Depot – upon delivery
Dry Ice Boxes <b>EMPTY</b> Free from all trash, oil, old ice, and <u>customer waste</u> ***	<b>Food Grade use:</b> no cracks, stains or holes. <b>All uses:</b> No odor, missing legs, missing ID markings, missing or mismatched lids.	Visual Inspection by Plant Operators/Managers and Depot Managers on duty	Plant-upon delivery Depot – upon delivery / before shipment

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**DRY ICE SPECIFICATION-STANDARD  
OPERATING PROCEDURE**

Form Number: 1-ALL-QA-5004-SOP  
Revision: 1  
Effective Date: 09/25/2018  
Page: 2/2

Prepared By: Tim Busby

Approved By: Josh Jones

<p align="center">Dry Ice Boxes <b><u>LOADED</u></b> ***</p>	<p align="center"><u>Clean Appearance</u> Free from insects, dirt and all other debris must be shrink wrapped and stamped with quality seal</p>	<p align="center">Visual Inspection by Plant Operators/Managers and Depot Managers on duty</p>	<p align="center">Plant- before shipment Depot – upon delivery / before shipment</p>
<p align="center">Shovels***</p>	<p align="center"><b><u>Food Grade Use: Clean from dirt, oil and stains. No holes, cracks or pieces of shovel missing. No wooden handles allowed.</u></b></p>	<p align="center">Visual inspection by Plant/Depot Manager/Operators</p>	<p align="center">Daily/Before Every Shift and also before each use. Depending on condition, shovel needs to be replaced at least once per year.</p>

**\*\*\*If at anytime there is a concern or observation of any Carbon Dioxide, Dry Ice or Box that does not meet the specifications listed above follow the Dry Ice Non-Conformance Procedure and contact your supervisor\*\*\***

COA's will be provided to customers upon request. Use form [1-ALL-QA-1005-F Certificate of Analysis](#).

Seal all possible access points on the trailer including hose tubes. Record seal numbers on customer's COA (pull seals tight).

Two copies shall be made of the COA. Send one with the driver for delivery. The other will be sent to dispatch along with the bill of lading. All original copies will be filed at the plant or depot in accordance with the "Document and Form Control Procedure."

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**DRY ICE BOX HANDLING-STANDARD  
OPERATING PROCEDURE**

Form Number: 1-ALL-QA-5005-SOP  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/1

Prepared By: Tim Busby

Approved By: Josh Jones

**Purpose:**

To ensure the highest quality product in the market place by maintaining quality boxes through identifying, tracking and repairing non-compliant boxes.

**Safety Consideration:**

Carbon Dioxide is extremely cold and will cause severe frostbite. Never allow any unprotected part of your body to touch solid carbon dioxide.

Vapor can cause rapid suffocation, increased heart rate, respiration and may cause damage to nervous system. PPE includes – insulated gloves, safety glasses.

**Responsibility:**

It is the responsibility of every member of the Dry Ice team to ensure a quality product to our customers. Including – Plant Managers, Plant Operators, Depot Personnel, and Transportation/Delivery Drivers.

**Procedures:**

Empty Boxes

All empty boxes should be free from all trash, oil, old ice, and **customer waste**.

Empty boxes will be inspected for compliance by plant and depot personnel upon arrival and before being sent to production or shipped to plants.

Clean Boxes

All boxes must be washed following [1-ALL-QA-5006-SOP Box Washing](#) and all documentation must be completed.

Loaded Boxes

**Plant to Depot-**

Loaded boxes must be inspected, shrink wrapped, and stamped with quality seal before being loaded onto truck.

Upon delivery, the depot or customer personnel will break seal (if assigned) and verify that it is the same number as recorded on the delivery bill.

**Depot to Customer-**

Loaded boxes must be inspected, shrink wrapped, and stamped with quality seal before being loaded onto truck.

**\*If at any time there is a concern or observation of any Dry Ice Box that does not meet the specifications follow the Dry Ice Non-Conformance Procedure and contact your supervisor.**



## BOX WASHING-STANDARD OPERATING PROCEDURE

Form Number: 1-ALL-QA-5006-SOP  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/2

Prepared By: Tim Busby

Approved By: Josh Jones

### Purpose:

The purpose is to clean and disinfect all Dry Ice containers and have them free from any bacteria, stains, dirt, insects or other debris.

### Materials and/or Equipment:

High Pressure Heated Washer, Bio-Degradable Detergent-Inspectors Choice, Sani-T-10 Sanitizer and prepared washing area.

### Safety Considerations:

#### RISKS TO PERSONNEL AND PRECAUTIONS FOR RISK REDUCTION:

There is the risk of chemical burn from the detergent and it is necessary to use rubber gloves, safety glasses along with any other required PPE for the area while you are handling the detergent and the power washer.

### Responsibilities:

The Ice Operators, Ice Managers along with the Plant Manager are responsible for performing and recording the box washing.

It is also the responsibility of the individual cleaning the boxes to report any damaged or un-cleanable boxes to the plant manager.

### Procedures:

#### Box Washing

1. Unclean and un-disinfected containers are to be stored in a designated area, and are to be kept isolated from the clean/disinfected containers.
2. Move container from designated area to washing bay or platform.
3. Spray cleaner (soap/degreaser) in container from the bottom up to the top. Mix per container instructions.
4. By the time you have soaped down the container, you are ready to wash with heated power washer.
5. Start at the bottom of the container, washing from left to right, then moving up to the top of the container. Do all four sides. Then turn the container on its side and wash the inside of the container. Make sure the lid is washed also. When box is turned back upright wash the side that was on the floor.
6. After washing and rinsing is completed, boxes are to be sanitized before use. Boxes are to be sanitized inside and out.

Sanitizer mixture should be, ¼ ounce of Sani-T-10 to one gallon of water.

Provision: Plant(s) that cannot discharge water and only service non-food grade customers, the following procedure applies.

1. Return boxes are to be kept separated from boxes that are ready to be filled with product.
2. Boxes are to be cleaned inside and out.
3. Boxes are to be free from trash, insects, dirt, odor(s) and other debris.

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**BOX WASHING-STANDARD OPERATING  
PROCEDURE**

Form Number: 1-ALL-QA-5006-SOP  
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Effective Date: 01/19/2018  
Page: 2/2

Prepared By: Tim Busby

Approved By: Josh Jones

**Reporting and Documentation:**

The operator will log the box number that has been cleaned and disinfected. He will inspect each box to make sure that the box is clean and dried before storing it away or using it. He will turn in the list of all boxes washed and disinfected to the plant manager.

**Contingencies:**

Any problems should be reported to the plant manager immediately.

**Reviews and Revisions:**

This procedure shall be reviewed for compliance and effectiveness and revised as necessary (or at a specified interval).

**Attachments and Reference Forms:**

Attachment A: [1-ALL-QA-1006-F Box Wash and Inspection Sheet](#)

MANDATORY FORM

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**PACKING OF RICE USED FOR ICE BLASTING-  
STANDARD OPERATING PROCEDURE**

Form Number: 1-ALL-QA-5007-SOP  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/1

Prepared By: Tim Busby

Approved By: Josh Jones

**Purpose:**

The purpose of this SOP is to ensure the rice used for ice blasting is properly packaged.

**Materials and/or Equipment:**

Proper PPE is to be used at all time  
HR-27 or HR-11 Container  
Liner for container, and cardboard for container

**Safety Considerations:**

Since you will be dealing with dry ice, proper ventilation must be present and proper gloves for packaging dry ice must be used.

**Responsibilities:**

It is the responsibility of the plant manager to ensure that the individuals performing this task are properly trained. It is also the responsibility of the individual performing this task to make sure the rice is properly packaged.

**Procedures:**

**\*Box must meet “all use” guidelines for “Dry Ice Boxes EMPTY” within [1-ALL-QA-5004-SOP Dry Ice Specification](#).\***

- 1.) According to customer’s request, alterations of liner, etc. can be accepted.
- 2.) Make sure the Box is clean and dry.
- 3.) Place liner in Box.
- 4.) Place Box under the pelletizer.
- 5.) When the Box is full, place cardboard on top of the liner and neatly fold liner.
- 6.) Close lid and wrap the Box.
- 7.) Weigh the Box and record the info on the label and record on sheet.

**Reporting and Documentation:**

Make sure the label is filled out correctly and record on the ice production sheet.

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



## NUMBERING OF BOXES-STANDARD OPERATING PROCEDURE

Form Number: 1-ALL-QA-5008-SOP  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/1

Prepared By: Tim Busby

Approved By: Josh Jones

### Purpose:

The purpose is make sure all Dry Ice containers have an assigned number for traceability.

### Materials and/or Equipment:

Permanent Marker / Stencils

### Safety Considerations:

All PPE is worn and SDS sheets reviewed before work begins.

### Responsibilities:

Plant Managers, Depot Managers, and Ice Operators are responsible to make sure all boxes have an assigned number.

### Procedures:

1. Boxes that do not have an assigned number will be numbered.
2. Boxes that have faded numbers will need to be retraced.
3. Make sure surface is clean and dry where the number will be administered.
4. Boxes with no number will be given a plant or depot prefix then the number. (See example in attachment section.)
5. Numbering will start at 01.
6. If another location has already applied a number, then the receiving plant will use it and not create another.
7. A log will be maintained at each location to ensure numbers are sequential with no duplicates or gaps.
8. Each Plant / Depot needs to number the boxes in the same location on every box. On 27's all 4 sides need numbered. On 11's 2 sides need numbered.

### Reporting and Documentation:

Each Plant / Depot will document last number used so when future numbering is needed, numbers will continue in consecutive order.

### Contingencies:

Any problems should be reported to the plant manager immediately.

### Reviews and Revisions:

This procedure shall be reviewed for compliance and effectiveness and revised as necessary (or at a specified interval).

### Attachments and Reference Forms:

Maricopa – MAR 01  
Reliant Atlantic Group – RAG 01  
Galva – GA 01  
Visalia – VAS 01  
Denver Depot – DEN 01

\*EXAMPLES: (Each location to develop their box # nomenclature similar to these examples and stay consistent on the [1-ALL-QA-1007-F Box Numbering Log](#).)

Attachment A: [1-ALL-QA-1007-F Box Numbering Log](#)

### MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



MELT TEST RECORD

Form Number: 1-ALL-QA-1000-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1 of 1

Prepared By: Tim Busby

Approved By: Josh Jones

Customer: \_\_\_\_\_

Load #: \_\_\_\_\_

	Date:	Machine:	Test 1 Time:	Results:	Tested By:	Test 2 Time:	Results:	Tested By:
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
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28								
29								
30								

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.





**DRY ICE PRODUCTION DAILY LOG**

Form Number: 1-ALL-QA-1001-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1 of 1

Prepared By: Tim Busby

Approved By: Josh Jones

Plant:

Production Date:

	Box#	Tare:	Gross:	Net:	Date:	Time:	Machine #	Product:	Oper:	Notes:
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



DRIVER LOAD OUT LOG ICE

Form Number: 1-ALL-QA-1002-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1 of 1

Prepared By: Tim Busby

Approved By: Josh Jones

Date:	Time:	BOL#:	Seal #:	Truck#:	Trailer #:	Driver:	Destination:	Tare Weight:	Loaded Wt:	Load Ice Weight minus Bins:

Box #	APC/Loaded:	Box #	1/8" Pellets/Loaded:	Box #	5/8" Pellets/Loaded:	Box #	10lb Cut B&T/Loaded:	Box #	10Lb Slab/Loaded:	Box #	5lb Cut B&T/Loaded:



**BOX TRACKING BY LOAD**

Form Number: 1-ALL-QA-1003-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1 of 1

Prepared By: Tim Busby

Approved By: Josh Jones

Plant:	_____	Seal #	_____
		Seal By:	_____
BOL or PO:	_____	Destination:	_____
		Customer:	_____
		Trailer #	_____

Box #	Operator:	Weight/Pieces:	Product (sliced, pellet, rice):	Notes:
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
	Total Weight:		BOL/Ticket #	
	Drivers Signature:			

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



**NON-CONFORMANCE FORM**

Form Number: 1-ALL-QA-1004-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/1

Prepared By: Josh Jones

Approved By: Tim Busby

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Location: \_\_\_\_\_

Load #: \_\_\_\_\_

Name: \_\_\_\_\_

Facility: \_\_\_\_\_

Event Description:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Root Cause Analysis: (5 whys)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Corrective Action:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Assigned to: \_\_\_\_\_

Target Date: \_\_\_\_\_

Future Preventive Measures:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Product Disposition:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Closed Out: \_\_\_\_\_

Division Manager: \_\_\_\_\_

Signature: \_\_\_\_\_

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



**FOOD GRADE CERTIFICATE OF ANALYSIS**

Form Number: 1-ALL-QA-1005-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1/1

Prepared By: Josh Jones

Approved By: Tim Busby

This is to certify that the dry ice contained in shipment # \_\_\_\_\_ and shipped to \_\_\_\_\_ on \_\_\_\_\_ meets and conforms to all requirements called for in Reliant Food Grade specifications.

Batch #	Batch #

Requirement	Test Method	Limit of Detection	Food Grade Spec Limit	Results	Recalls
Purity	Zahm Nagel	99.99% Max	> 99.5 %		
Moisture	Analyzer	0.5 ppm	< 20 ppm		
Total Hydrocarbons	Analyzer	0.5 ppm	< 50 ppm		
Total Sulfur	Sulfur Analyzer	10 ppb	< 500 ppb		
Carbon Monoxide	Detector Tube	5 ppm	< 10 ppm		
Nitrogen Oxides	Detector Tube	0.5 ppm	< 5 ppm		
Appearance	Sensory		Normal		
Foreign Odor	Sensory		None		

Note: A reading of **ND** indicates a non-detectable result. ppm = parts per million by volume; ppb = parts per billion by volume.

Certified By:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



BOX WASHING AND INSPECTION SHEET

Form Number: 1-ALL-QA-1006-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1 of 1

Prepared By: Tim Busby

Approved By: Josh Jones

CUSTOMER NAME - \_\_\_\_\_

LOAD NUMBER - \_\_\_\_\_

DATE \_\_\_\_\_ BOXES WASHED BY \_\_\_\_\_

Box#	Bloods/Solids	Degreaser	Sanitizer	Box#	Bloods/Solids	Degreaser	Sanitizer
1				15			
2				16			
3				17			
4				18			
5				19			
6				20			
7				21			
8				22			
9				23			
10				24			
11				25			
12				26			
13				27			
14				28			

BOX NUMBER \_\_\_\_\_ PROBLEM - \_\_\_\_\_  
CORRECTIVE ACTION - \_\_\_\_\_

BOX NUMBER \_\_\_\_\_ PROBLEM - \_\_\_\_\_  
CORRECTIVE ACTION - \_\_\_\_\_

BOX NUMBER \_\_\_\_\_ PROBLEM - \_\_\_\_\_  
CORRECTIVE ACTION - \_\_\_\_\_

BOX NUMBER \_\_\_\_\_ PROBLEM - \_\_\_\_\_  
CORRECTIVE ACTION - \_\_\_\_\_

LOAD INSPECTED BY: \_\_\_\_\_ DATE \_\_\_\_\_

MANDATORY FORM

User must assure that this revision of the form is current prior to use. Completed forms become permanent records subject to the record retention policy.



BOX NUMBERING LOG

Form Number: 1-ALL-QA-1007-F  
Revision: 0  
Effective Date: 01/19/2018  
Page: 1 of 1

Prepared By: Tim Busby

Approved By: Josh Jones

Plant: [ ]  
 Abbreviation Used: [ ]

**Box # (start cell below):**




# Safety Data Sheet

## Spartan Chemical Company, Inc.

Revision Date: 07-Aug-2015

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product Identifier

**Product Name:** INSPECTOR'S CHOICE  
**Product Number:** 3045  
**Recommended Use:** Cleaning agent  
**Uses Advised Against:** For Industrial and Institutional Use Only

**Manufacturer/Supplier:** Spartan Chemical Company, Inc.  
1110 Spartan Drive  
Maumee, Ohio 43537 USA  
800-537-8990 (Business hours)  
[www.spartanchemical.com](http://www.spartanchemical.com)

#### **24 Hour Emergency Phone Numbers:**

**Medical Emergency/Information:** 888-314-6171  
**Transportation/Spill/Leak:** CHEMTREC 800-424-9300

### 2. HAZARDS IDENTIFICATION

#### **GHS Classification**

**Skin Corrosion/Irritation:** Category 1 Sub-category B  
**Serious Eye Damage/Eye Irritation:** Category 1  
**Corrosive to Metals:** Category 1

#### **GHS Label Elements**

**Signal Word:**

**Danger**

**Symbols:**



#### **Hazard Statements:**

Causes severe skin burns and serious eye damage.  
May be corrosive to metals.

#### **Precautionary Statements:**

##### **Prevention:**

Do not breathe mist, vapors or spray.  
Wash hands and any exposed skin thoroughly after handling.  
Wear protective gloves. Wear eye / face protection. Wear protective clothing.  
Keep in original or other corrosion resistant container.

##### **Response:**

**IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.**

##### **-Eyes**

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

##### **-Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.

##### **-Inhalation:**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

##### **-Ingestion:**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

##### **-Specific Treatment:**

See Safety Data Sheet Section 4: "FIRST AID MEASURES" for additional information.

##### **Storage:**

Store locked up. Store in corrosion resistant container.

##### **Disposal:**

Dispose of contents and container in accordance with local, state and federal regulations.



**Hazards Not Otherwise Classified:** Not Applicable

**Other Information:**

- Corrosive.
- Harmful contact may not cause immediate pain.
- Harmful if swallowed
- Inhalation of vapors or mist may cause respiratory irritation or damage.
- Take off and destroy contaminated shoes.
- Keep out of reach of children.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
water	7732-18-5	60-100
tetrasodium ethylenediaminetetraacetate	64-02-8	1-5
sodium metasilicate	6834-92-0	1-5
phosphate ester	68130-47-2	1-5
sodium dodecylbenzene sulfonate	25155-30-0	1-5
sodium hydroxide	1310-73-2	1-5
sodium (C14-16) olefin sulfonate	68439-57-6	1-5

Specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**-Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.

**-Skin Contact:** Take off immediately all contaminated clothing and shoes. Rinse with water or shower for at least 15 minutes. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN. Wash contaminated clothing before reuse. Discard or destroy contaminated shoes.

**-Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.

**-Ingestion:** Rinse mouth. Do NOT induce vomiting. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN. Never give anything by mouth to an unconscious person.

**Note to Physicians:** NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Product does not support combustion, Use extinguishing agent suitable for type of surrounding fire

**Specific Hazards Arising from the Chemical:** Dried product is capable of burning. Combustion products are toxic.

**Hazardous Combustion Products:** May include Carbon monoxide Carbon dioxide and other toxic gases or vapors.

**Protective Equipment and Precautions for Firefighters:** Wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear. Cool fire-exposed containers with water spray.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Environmental Precautions:** Do not rinse spill onto the ground, into storm sewers or bodies of water.

**Methods for Clean-Up:** Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

## 7. HANDLING AND STORAGE

**Advice on Safe Handling:** Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

**Storage Conditions:** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep from freezing.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational Exposure Limits:

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH
sodium hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> (vacated) Ceiling: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>

**Engineering Controls:** Provide good general ventilation.  
If work practices generate dust, fumes, gas, vapors or mists which expose workers to chemicals above the occupational exposure limits, local exhaust ventilation or other engineering controls should be considered.  
Eye wash stations and shower facilities should be readily accessible in areas where the product is handled.

**Personal Protective Equipment**

**Eye/Face Protection:** Wear splash goggles. For severe use-conditions, wear a face shield over the goggles.

**Skin and Body Protection:** Wear rubber or other chemical-resistant gloves. Use of impervious apron, boots and other protective equipment should be considered in order to prevent or minimize contact with this product.

**Respiratory Protection:** Not required with expected use.  
If occupational exposure limits are exceeded or respiratory irritation occurs, use of a NIOSH/MSHA approved respirator suitable for the use-conditions and chemicals in Section 3 should be considered.

**General Hygiene Considerations:** Wash hands and any exposed skin thoroughly after handling.  
See 29 CFR 1910.132-138 for further guidance.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance/Physical State:</b>	Liquid
<b>Color:</b>	Clear Light yellow
<b>Odor:</b>	No information available.
<b>pH:</b>	13.0-13.5
<b>Melting Point / Freezing Point:</b>	No information available.
<b>Boiling Point / Boiling Range:</b>	> 100 °C / 212 °F
<b>Flash Point:</b>	> 100 °C / > 212 °F ASTM D56
<b>Evaporation Rate:</b>	< 1 (BuAc = 1)
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper Flammability Limit:</b>	No information available.
<b>Lower Flammability Limit:</b>	No information available.
<b>Vapor Pressure:</b>	No information available.
<b>Vapor Density:</b>	No information available.
<b>Specific Gravity:</b>	1.06
<b>Solubility(ies):</b>	Soluble in water
<b>Partition Coefficient:</b>	No information available.
<b>Autoignition Temperature:</b>	No information available.
<b>Decomposition Temperature:</b>	No information available.
<b>Viscosity:</b>	No information available.

## 10. STABILITY AND REACTIVITY

**Reactivity:** This material is considered to be non-reactive under normal conditions of use.

**Chemical Stability:** Stable under normal conditions.

**Possibility of Hazardous Reactions:** Not expected to occur with normal handling and storage.

**Conditions to Avoid:** Extremes of temperature and direct sunlight.

**Incompatible Materials:** Strong oxidizing agents. Strong acids.  
**Hazardous Decomposition Products:** May include carbon monoxide, carbon dioxide (CO<sub>2</sub>) and other toxic gases or vapors.

## 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Eyes, Skin, Ingestion, Inhalation.  
**Symptoms of Exposure:**  
**-Eye Contact:** Pain, redness, swelling of the conjunctiva and tissue damage. Eye contact may cause permanent damage.  
**-Skin Contact:** Pain, redness, blistering and possible chemical burn.  
**-Inhalation:** Irritation or damage to the mucus membranes of the respiratory tract. Nasal discomfort and coughing.  
**-Ingestion:** Damage or chemical burns to mouth, throat and stomach. Pain, nausea, vomiting and diarrhea.  
**Immediate, Delayed, Chronic Effects**  
**Product Information:** Data not available or insufficient for classification.  
**Target Organ Effects:** -Eyes. Respiratory System. -Skin.  
**Numerical Measures of Toxicity**  
 The following acute toxicity estimates (ATE) are calculated based on the GHS document.  
 .  
 ATEmix (oral): 6467 mg/kg  
 ATEmix (dermal): 26145 mg/kg

### Component Acute Toxicity Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
water 7732-18-5	> 90 mL/kg ( Rat )	Not Available	Not Available
tetrasodium ethylenediaminetetraacetate 64-02-8	= 10 g/kg ( Rat )	Not Available	Not Available
sodium metasilicate 6834-92-0	= 600 mg/kg ( Rat )	Not Available	Not Available
sodium dodecylbenzene sulfonate 25155-30-0	= 438 mg/kg ( Rat )	Not Available	Not Available
sodium hydroxide 1310-73-2	Not Available	= 1350 mg/kg ( Rabbit )	Not Available
sodium (C14-16) olefin sulfonate 68439-57-6	= 2310 mg/kg ( Rat )	= 6300 mg/kg ( Rabbit )	Not Available

**Carcinogenicity:** No components present at 0.1% or greater are listed as to being carcinogens by ACGIH, IARC, NTP or OSHA.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical Name	Algae/Aquatic Plants	Fish	Toxicity to Microorganisms	Crustacea
tetrasodium ethylenediaminetetraacetate 64-02-8	1.01: 72 h Desmodesmus subspicatus mg/L EC50	41: 96 h Lepomis macrochirus mg/L LC50 static 59.8: 96 h Pimephales promelas mg/L LC50 static	Not Available	610: 24 h Daphnia magna mg/L EC50
sodium metasilicate 6834-92-0	Not Available	210: 96 h Brachydanio rerio mg/L LC50 semi-static 210: 96 h Brachydanio rerio mg/L LC50	Not Available	216: 96 h Daphnia magna mg/L EC50
sodium dodecylbenzene sulfonate 25155-30-0	Not Available	10.8: 96 h Oncorhynchus mykiss mg/L LC50 static	Not Available	Not Available
sodium hydroxide 1310-73-2	Not Available	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	Not Available	Not Available
sodium (C14-16) olefin sulfonate 68439-57-6	Not Available	1.0 - 10.0: 96 h Brachydanio rerio mg/L LC50 static 12.2: 96 h Brachydanio rerio mg/L LC50 semi-static	Not Available	Not Available

**Persistence and Degradability:** No information available.  
**Bioaccumulation:** No information available.

**Other Adverse Effects:** No information available.

### 13. DISPOSAL CONSIDERATIONS

**Disposal of Wastes:** Dispose of in accordance with federal, state and local regulations.  
**Contaminated Packaging:** Dispose of in accordance with federal, state and local regulations.  
**US EPA Waste Number:** D002

### 14. TRANSPORT INFORMATION

**DOT:**  
**UN/ID No:** UN1760  
**Proper Shipping Name:** Corrosive liquids, n.o.s.,(contains sodium hydroxide)  
**Hazard Class:** 8  
**Packing Group:** III  
**Special Provisions:** For totes add: I.B.C.  
 Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Check with a trained hazardous materials transportation expert for information specific to your situation.

**IMDG:**  
**UN/ID No:** UN1760  
**Proper Shipping Name:** Corrosive liquids, n.o.s.,(contains sodium hydroxide)  
**Hazard Class:** 8  
**Packing Group:** III  
**Additional information:** For totes add: I.B.C.

### 15. REGULATORY INFORMATION

**TSCA Status:** (Toxic Substance Control Act Section 8(b) Inventory)  
 All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

**SARA 313**  
 This product does not contain listed substances above the "de minimus" level

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard:</b>	Yes
<b>Chronic Health Hazard:</b>	No
<b>Fire Hazard:</b>	No
<b>Sudden release of pressure hazard:</b>	No
<b>Reactive Hazard:</b>	No

**California Proposition 65**

This product is not subject to warning requirements under California Proposition 65.

### 16. OTHER INFORMATION

<b><u>NFPA</u></b>	<b>Health Hazards: 3</b>	<b>Flammability: 0</b>	<b>Instability: 0</b>	<b>Special: N/A</b>
<b><u>HMIS</u></b>	<b>Health Hazards: 3</b>	<b>Flammability: 0</b>	<b>Physical Hazards: 0</b>	

**Revision Date:** 07-Aug-2015  
**Reasons for Revision:** Section 14 and 15

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**Disclaimer:**

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

**End of Safety Data Sheet**



# Safety Data Sheet

## Spartan Chemical Company, Inc.

Revision Date: 27-Jul-2015

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Name:** SANI-T-10  
**Product Number:** 1210 , 4800  
**Recommended Use:** Disinfectant  
**Uses Advised Against:** For Industrial and Institutional Use Only

**Manufacturer/Supplier:** Spartan Chemical Company, Inc.  
1110 Spartan Drive  
Maumee, Ohio 43537 USA  
800-537-8990 (Business hours)  
[www.spartanchemical.com](http://www.spartanchemical.com)

**24 Hour Emergency Phone Numbers:**

**Medical Emergency/Information:** 888-314-6171  
**Transportation/Spill/Leak:** CHEMTREC 800-424-9300

### 2. HAZARDS IDENTIFICATION

**GHS Classification**

Acute Toxicity - Oral: Category 4  
Skin Corrosion/Irritation: Category 1 Sub-category B  
Serious Eye Damage/Eye Irritation: Category 1

**GHS Label Elements**

**Signal Word:**

**Symbols:**

**Danger**



**Hazard Statements:**

Harmful if swallowed.  
Causes severe skin burns and serious eye damage.

**Precautionary Statements:**

**Prevention:**

Wash hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product  
Do not breathe mist, vapors or spray.  
Wear protective gloves. Wear eye / face protection. Wear protective clothing.

**Response:**

**IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.**

**-Eyes**

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

**-Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.

**-Inhalation:**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**-Ingestion:**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**-Specific Treatment:**

See Safety Data Sheet Section 4: "FIRST AID MEASURES" for additional information.

**Storage:**

Store locked up.

**Disposal:**

Dispose of contents and container in accordance with local, state and federal regulations.

**Hazards Not Otherwise Classified:** Not Applicable

**Other Information:**

- Corrosive.
- Inhalation of vapors or mist may cause respiratory irritation.
- Keep out of reach of children.
- NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
water	7732-18-5	60-100
alkyl dimethyl ethylbenzyl ammonium chloride	85409-23-0	3-7
alkyl dimethyl benzyl ammonium chloride	68391-01-5	3-7

Specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**-Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.

**-Skin Contact:** Take off immediately all contaminated clothing and shoes. Rinse with water or shower for at least 15 minutes. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN. Wash contaminated clothing before reuse.

**-Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN.

**-Ingestion:** Rinse mouth. Do NOT induce vomiting. IMMEDIATELY CALL A POISON CENTER OR PHYSICIAN. Never give anything by mouth to an unconscious person.

**Note to Physicians:** NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Product does not support combustion, Use extinguishing agent suitable for type of surrounding fire

**Specific Hazards Arising from the Chemical:** Dried product is capable of burning. Combustion products are toxic.

**Hazardous Combustion Products:** May include Carbon monoxide Carbon dioxide and other toxic gases or vapors.

**Protective Equipment and Precautions for Firefighters:** Wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear. Cool fire-exposed containers with water spray.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Environmental Precautions:** Do not rinse spill onto the ground, into storm sewers or bodies of water.

**Methods for Clean-Up:** Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

### 7. HANDLING AND STORAGE

**Advice on Safe Handling:** Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

**Storage Conditions:** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep from freezing.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational Exposure Limits:** None established.

**Engineering Controls:** Provide good general ventilation.  
If work practices generate dust, fumes, gas, vapors or mists which expose workers to chemicals above the occupational exposure limits, local exhaust ventilation or other engineering controls should be considered.  
Eye wash stations and shower facilities should be readily accessible in areas where the product is handled.

### Personal Protective Equipment

**Eye/Face Protection:** Wear splash goggles.

**Skin and Body Protection:** Wear rubber or other chemical-resistant gloves.

**Respiratory Protection:** Not required with expected use.

If occupational exposure limits are exceeded or respiratory irritation occurs, use of a NIOSH/MSHA approved respirator suitable for the use-conditions and chemicals in Section 3 should be considered.

**General Hygiene Considerations:** Wash hands and any exposed skin thoroughly after handling.  
See 29 CFR 1910.132-138 for further guidance.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance/Physical State:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Mild
<b>pH:</b>	7.0-8.0
<b>Melting Point / Freezing Point:</b>	No information available.
<b>Boiling Point / Boiling Range:</b>	100 °C / 212 °F
<b>Flash Point:</b>	> 100 °C / > 212 °F ASTM D56
<b>Evaporation Rate:</b>	< 1 (Butyl acetate = 1)
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper Flammability Limit:</b>	No information available.
<b>Lower Flammability Limit:</b>	No information available.
<b>Vapor Pressure:</b>	No information available.
<b>Vapor Density:</b>	No information available.
<b>Specific Gravity:</b>	0.992
<b>Solubility(ies):</b>	Soluble in water
<b>Partition Coefficient:</b>	No information available.
<b>Autoignition Temperature:</b>	No information available.
<b>Decomposition Temperature:</b>	No information available.
<b>Viscosity:</b>	No information available.

## 10. STABILITY AND REACTIVITY

**Reactivity:** This material is considered to be non-reactive under normal conditions of use.

**Chemical Stability:** Stable under normal conditions.

**Possibility of Hazardous Reactions:** Not expected to occur with normal handling and storage.

**Conditions to Avoid:** Extremes of temperature and direct sunlight.

**Incompatible Materials:** Strong oxidizing agents. Strong acids.

**Hazardous Decomposition Products:** May include carbon monoxide, carbon dioxide (CO<sub>2</sub>) and other toxic gases or vapors.

## 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Eyes, Skin, Ingestion, Inhalation.

**Symptoms of Exposure:**



**-Eye Contact:** Pain, redness, swelling of the conjunctiva and tissue damage. Eye contact may cause permanent damage.  
**-Skin Contact:** Pain, redness, blistering and possible chemical burn.  
**-Inhalation:** Nasal discomfort and coughing.  
**-Ingestion:** Damage or chemical burns to mouth, throat and stomach. Pain, nausea, vomiting and diarrhea.

**Immediate, Delayed, Chronic Effects**

Product Information: Data not available or insufficient for classification.

**Numerical Measures of Toxicity**

The following acute toxicity estimates (ATE) are calculated based on the GHS document.

ATEmix (oral): 999 mg/kg  
 ATEmix (dermal): 2997 mg/kg  
 ATEmix (inhalation-dust/mist): 10 mg/l

**Component Acute Toxicity Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
water 7732-18-5	> 90 mL/kg ( Rat )	Not Available	Not Available

**Carcinogenicity:** No components present at 0.1% or greater are listed as to being carcinogens by ACGIH, IARC, NTP or OSHA.

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

**Other Adverse Effects:** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal of Wastes:** Dispose of in accordance with federal, state and local regulations.

**Contaminated Packaging:** Dispose of in accordance with federal, state and local regulations.

**14. TRANSPORT INFORMATION**

**DOT:** Not Regulated  
**Proper Shipping Name:** Non-Hazardous Product  
**Special Provisions:** Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Check with a trained hazardous materials transportation expert for information specific to your situation.

**IMDG:** Not Regulated  
**Proper Shipping Name:** Non-Hazardous Product

**15. REGULATORY INFORMATION**

**TSCA Status:** (Toxic Substance Control Act Section 8(b) Inventory)

All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

**SARA 313**

This product does not contain listed substances above the "de minimus" level

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard:</b>	Yes
<b>Chronic Health Hazard:</b>	No
<b>Fire Hazard:</b>	No
<b>Sudden release of pressure hazard:</b>	No

**Reactive Hazard:**

No

**California Proposition 65**

This product is not subject to warning requirements under California Proposition 65.

**EPA Pesticide Registration Number:** 5741-13**EPA Statement:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**EPA Pesticide Label:**

Danger. Corrosive. Causes irreversible eye damage and skin burns. Harmful if absorbed through skin. Harmful if swallowed. Do not get in eyes, on skin or clothing. Wear protective eyewear (goggles, face shield, or safety glasses), rubber gloves and protective clothing. Wash thoroughly with soap and water after handling and before eating, drinking, smoking tobacco, chewing gum, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

<b>16. OTHER INFORMATION</b>
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**NFPA****Health Hazards:** 3**Flammability:** 0**Instability:** 0**Special:** N/A**HMIS****Health Hazards:** 3**Flammability:** 0**Physical Hazards:** 0**Revision Date:**

27-Jul-2015

**Reasons for Revision:**

Section 14 and 15

**Disclaimer:**

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

**End of Safety Data Sheet**