

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product Identifier

**Product Name** Optimum Results™ A Reference Filling Solution

**Product No** 900061

**Synonyms** 219585-A01

**Pure substance/mixture** Mixture

### Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Use as laboratory reagent

**Uses advised against** No Information available

**Manufacturer, Importer, Supplier** Thermo Fisher Scientific©  
Water and Lab Products  
22 Alpha Road  
Chelmsford, MA 01824, USA  
1-978-232-6000

**E-mail address** [info.water@thermo.com](mailto:info.water@thermo.com)

**Made in** USA

**Emergency Telephone** 24 Hour Emergency Phone Number  
CHEMTREC®  
Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: 1-703-527-3887  
(collect calls accepted)

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

### Label Elements

#### **Emergency Overview**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Appearance** Clear

**Physical State** Liquid

**Odor** None

### Precautionary Statements

#### **Hazards not otherwise classified (HNOC)**

No information available

#### **Other Information**

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Water	7732-18-5	70 - 80%
Potassium Nitrate	7757-79-1	10 - 20%
Potassium Chloride	7447-40-7	1 - 10%
Sodium Chloride	7647-14-5	0.1 - 1.0%
Silver Chloride	7783-90-6	<0.1%
Triton® X-100	9002-93-1	<0.1%

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

### First aid measures

#### **General Advice**

Use first aid treatment according to the nature of the injury. Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.

#### **Eye Contact**

Rinse thoroughly with plenty of water, also under the eyelids. Obtain medical attention.

#### **Skin Contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. In case of skin reactions, consult a physician.

<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Protection of First-aiders</b>	Use personal protective equipment. See section 8 for more information. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

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

**Most important symptoms/effects** No information available

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

**Notes to Physician** Treat symptomatically

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**

No information available

**Specific Hazards Arising from the Chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** None

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures**

**Personal Precautions** Use personal protective equipment. For further specification, refer to section 8 of the SDS. Evacuate personnel to safe areas.

**Environmental Precautions** Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Methods and Material for Containment and Cleaning Up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

**Precautions for Safe Handling**

**Handling** To avoid risks to human health and the environment, comply with the instructions for use  
Wear personal protective equipment  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Ensure adequate ventilation, especially in confined areas

**Conditions for Safe Storage, Including any Incompatibilities**

**Storage** Keep container tightly closed in a dry and well-ventilated place  
Store at room temperature in the original container  
Keep away from direct sunlight

**Incompatible Products** No information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

**Exposure Guidelines**

Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

Individual protection measures, such as personal protective equipment

**Eye/face Protection** Wear chemical splash goggles and face shield. If splashes are likely to occur, wear:  
Face-shield.

**Skin and Body Protection** Wear protective gloves/clothing.

**Respiratory Protection** None under normal use conditions. In case of inadequate ventilation wear respiratory protection.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

**Physical State** Liquid  
**Appearance** Clear  
**Odor** None  
**Odor Threshold** No information available  
**PH Range** 5.0 - 8.5

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point/freezing point</b>	No information available	
<b>Boiling Point/Range</b>	~ 100 °C / 212 °F	
<b>Flash Point (High in °C)</b>	N/A	
<b>Evaporation Rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<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>	No information available	
<b>Water Solubility</b>	soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition Temperature</b>		
<b>Decomposition Temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	

**Explosive Properties** No information available  
**Oxidizing Properties** No information available

**Other Information**

**Softening Point** No information available  
**Molecular Weight** No information available  
**VOC Content(%)** No information available  
**Density** No Information available  
**Bulk Density** No information available

**10. STABILITY AND REACTIVITY**

**Reactivity**

No Information available

**Chemical Stability**

Stable under normal conditions

**Possibility of Hazardous Reactions**

None under normal processing

**Conditions to Avoid**

Extremes of temperature and direct sunlight

**Incompatible Materials**

No information available

**Hazardous Decomposition Products**

Thermal decomposition can lead to release of irritating gases and vapors

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Inhalation** No information available  
**Eye Contact** No information available  
**Skin Contact** No information available  
**Ingestion** No information available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water 7732-18-5	LD50 > 90 mL/kg ( Rat )	-	-
Potassium Nitrate 7757-79-1	LD50 = 3015 mg/kg ( Rat )	-	-
Potassium Chloride 7447-40-7	LD50 = 2600 mg/kg ( Rat )	-	-
Sodium Chloride 7647-14-5	LD50 = 3 g/kg ( Rat )	LD50 > 10 g/kg ( Rabbit )	LC50 > 42 g/m <sup>3</sup> ( Rat ) 1 h
Triton® X-100 9002-93-1	LD50 = 1800 mg/kg ( Rat )	-	-

**Information on Toxicological Effects**

**Symptoms** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available

<b>Mutagenic Effects</b>	No information available
<b>Carcinogenicity</b>	No information available.
<b>Reproductive Effects</b>	No information available
<b>STOT - single exposure</b>	No information available
<b>STOT - repeated exposure</b>	No information available
<b>Aspiration hazard</b>	No information available

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document .

<b>ATEmix (oral)</b>	13225 mg/kg
<b>ATEmix (dermal)</b>	1001000 mg/kg

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<b>Component</b>	<b>Freshwater Algae</b>	<b>Freshwater Fish</b>	<b>Water Flea</b>
Potassium Chloride 7447-40-7	EC50: = 2500 mg/L, 72h (Desmodesmus subspicatus)	LC50: 750 - 1020 mg/L, 96h static (Pimephales promelas) LC50: = 1060 mg/L, 96h static (Lepomis macrochirus)	EC50: = 83 mg/L, 48h Static (Daphnia magna) EC50: = 825 mg/L, 48h (Daphnia magna)
Sodium Chloride 7647-14-5	-	LC50: 4747 - 7824 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 6420 - 6700 mg/L, 96h static (Pimephales promelas) LC50: = 7050 mg/L, 96h semi-static (Pimephales promelas) LC50: 6020 - 7070 mg/L, 96h static (Pimephales promelas) LC50: = 12946 mg/L, 96h static (Lepomis macrochirus) LC50: 5560 - 6080 mg/L, 96h flow-through (Lepomis macrochirus)	EC50: 340.7 - 469.2 mg/L, 48h Static (Daphnia magna) EC50: = 1000 mg/L, 48h (Daphnia magna)

**Persistence and Degradability**

No information available

**Bioaccumulation/ Accumulation**

No information available

**Mobility**

No information available.

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste Disposal Methods** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging** Improper disposal or reuse of this container may be dangerous and illegal.

Component	CAWAST
Potassium Nitrate 7757-79-1	Ignitable Reactive
Silver Chloride 7783-90-6	Toxic

**14. TRANSPORT INFORMATION**

**DOT** Not regulated

**ICAO** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

**15. REGULATORY INFORMATION**

**International Inventories**

**USINV** Complies  
**CANINV** Complies  
**EINECS/ELINCS** Does not Comply  
**ENCS** Complies  
**IECSC** Complies  
**KECL** Does not Comply  
**PICCS** Complies  
**AICS** Complies

**USINV/ TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CANINV/ DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japanese Existing and New Chemical Substances  
**IECSC** - Chinese Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**U.S. Federal Regulations**

**SARA 313**

Component	Weight %	SARA 313 - Threshold Values %
Potassium Nitrate - 7757-79-1	10 - 20%	1.0

**SARA 311/312 Hazard Categories**

**Acute Health Hazard** No  
**Chronic Health Hazard** No  
**Fire Hazard** No  
**Sudden Release of Pressure Hazard** No  
**Reactive Hazard** No

**CWA (Clean Water Act)**

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Silver Chloride 7783-90-6	-	X	-	-

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Component	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
Potassium Nitrate 7757-79-1	X	X	X
Silver Chloride 7783-90-6	X	-	X

**U.S. EPA Label Information**

No information available

**16. OTHER INFORMATION**

**Prepared By** Environmental, Health and Safety  
**Prepared For** Thermo Fisher Scientific Inc.©  
**Issue Date** No information available  
**Revision Date** 13-Jun-2016  
**Reason for revision** SDS sections updated.

**Disclaimer**

IMPORTANT: The information contained in this SDS is correct to the best of our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties of any kind as to the accuracy or completeness of the information contained herein or the merchantability or fitness of the product or this information for a particular purpose. It is the responsibility of each individual buyer/user to determine the suitability of this information and the product for its intended purposes. Product sales are subject to Thermo Fisher Scientific's standard terms and conditions of sale. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions, or is altered in any way. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable government requirements. Since conditions of use of the product are not under direct control of Thermo Fisher Scientific, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Thermo Fisher Scientific will not be liable for any injuries or damages resulting from handling, use, misuse or contact with the product.

**End of Safety Data Sheet**