SAFETY DATA SHEET
(SDS)

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008, (EU) No. 453/2010

Revision Date 18-Nov-2015 **WAI2 - EGHS - EUROPEAN** **Revision Number** 3

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

1.1. Product Identifier

Product Name Optimum Results™ B Reference Filling Solution

Product No 900062

Pure substance/mixture Mixture

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

Recommended Use Use as laboratory reagent

Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Manufacturer, Importer, Supplier
Thermo Orion Inc. (Part of Thermo Fisher Scientific, Inc.)
Water Analysis Instruments
22 Alpha Road
Chelmsford, MA 01824, USA
1-978-232-6000

E-mail address wai.techservbev@thermofisher.com

Made in USA

1.4. Emergency telephone number

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)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification - Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Chronic aquatic toxicity	Category 2 - (H411)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

Symbol(s)

Not dangerous goods

N - Dangerous for the environment

R-code(s)

N;R51/53

2.2. Label elements

Product Identifier

Hazard Statements

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements

P273 - Avoid release to the environment

P202 - Do not handle until all safety precautions have been read and understood

2.3. Other hazards

Toxic to aquatic life

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	Chemical Formula	EC-No.	CAS-No	Weight %	DSD Classification - 67/548/EEC	CLP Classification - Regulation (EC) No 1272/2008	REACH Reg. No
Water	No information available	EEC No. 231-791-2	7732-18-5	80 - 90%	-		No information available
Potassium Nitrate	No information available	EEC No. 231-818-8	7757-79-1	10 - 20%	-		No information available
Potassium Chloride	No information available	EEC No. 231-211-8	7447-40-7	0 - 10%	-		No information available
Triton® X-100	No information available	-	9002-93-1	0 - 10%	-		No information available
Silver Nitrate	No information available	EEC No. 231-853-9	7761-88-8	0 - 10%	C; R34 N; R50-53 O; R8	Skin Corr. 1B (H314) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Ox. Sol. 2 (H272)	No information available

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

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

Full text of H- and EUH-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. Show this safety data sheet to the doctor in attendance.

Eye Contact In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately.

Protection of First-aiders 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.

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

Most important symptoms/effects No information available

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

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

Unsuitable Extinguishing Media
No information available

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice for firefighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. Evacuate personnel to safe areas.

6.2. Environmental precautions

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

6.3. 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.

Reference to Other Sections
Refer to protective measures listed in Sections 7 and 8
See Section 8 for information on appropriate personal protective equipment
See Section 12 for additional Ecological Information
See Section 13 for additional waste treatment information

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe 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.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Specific Use(s)
Use as laboratory reagent

Risk Management Methods (RMM)
The information required is contained in this Safety Data Sheet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Component	European Union	The United Kingdom	France	Spain	Germany
Silver Nitrate 7761-88-8	TWA: 0.01 mg/m^3 8 hr	STEL: 0.03 mg/m^3 15 min TWA: 0.01 mg/m^3 8 hr	TWA / VME: 0.01 mg/m^3 (8 heures). indicative limit	TWA / VLA-ED: 0.01 mg/m^3 (8 horas)	TWA: 0.01 mg/m^3 (8 Stunden). AGW - exposure factor 2 TWA: 0.01 mg/m^3 (8 Stunden). MAK Höhepunkt: 0.02

					mg/m^3
Component	**Italy**	**Portugal**	**The Netherlands**	**Finland**	**Denmark**
Silver Nitrate 7761-88-8	-	TWA: 0.01 mg/m^3 8 horas	-	TWA: 0.01 mg/m^3 8 tunteina STEL: 0.03 mg/m^3 15 minuutteina	
Component	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
Silver Nitrate 7761-88-8	MAK-TMW: 0.01 mg/m^3 8 Stunden	STEL: 0.02 mg/m^3 15 Minuten TWA: 0.01 mg/m^3 8 Stunden		TWA: 0.01 mg/m^3 8 timer	

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2. Exposure controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Personal protective equipment

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

Skin and body protection Wear protective gloves/clothing.

Respiratory Protection No protective equipment is needed under normal use conditions. In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid
Appearance Clear
Odor None
Odor Threshold No information available
PH Range No information available

Property	**Values**	**Remarks • Method**
Melting point/freezing point	No information available	
Boiling Point/Range	100 °C / 212 °F	
Flash Point	No information available	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor Density	No information available	
Specific Gravity	No information available	
Water Solubility	soluble	

Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition Temperature	
Decomposition Temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. 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

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No information available

10.2. Chemical stability
Stable under normal conditions

Explosion Data

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None

10.3. Possibility of hazardous reactions
None under normal processing

10.4. Conditions to avoid
Extremes of temperature and direct sunlight

10.5. Incompatible materials
No information available

10.6. Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapors

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

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

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity.

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

ATEmix (oral) 27,017.00 mg/kg

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	LD50 > 90 mL/kg (Rat)		
Potassium Nitrate	LD50 = 3015 mg/kg (Rat)		
Potassium Chloride	LD50 = 2600 mg/kg (Rat)		
Triton® X-100	LD50 = 1800 mg/kg (Rat)		
Silver Nitrate	LD50 = 1173 mg/kg (Rat)		

Skin Corrosion/Irritation No information available

Serious eye damage/eye irritation No information available

Sensitization No information available

Mutagenic Effects No information available

Carcinogenic effects No information available

Reproductive Effects No information available

STOT - single exposure No information available

STOT - repeated exposure No information available

Aspiration hazard No information available

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Very toxic to aquatic life with long lasting effects
10.1% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Freshwater Algae	Freshwater Fish	Water Flea
Potassium Chloride	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)
Silver Nitrate	-	LC50: 0.00512 - 0.00787 mg/L, 96h semi-static (Poecilia reticulata) LC50: = 0.0027 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 0.009 mg/L, 96h (Pimephales promelas) LC50: 0.0064 - 0.0106 mg/L, 96h semi-static (Pimephales promelas) LC50: 0.00181 - 0.00214 mg/L,	EC50: 0.0008 - 0.0011 mg/L, 48h Static (Daphnia magna) EC50: 0.0008 - 0.001 mg/L, 48h Flow through (Daphnia magna) EC50: = 0.0006 mg/L, 48h (Daphnia magna)

		96h static (Pimephales promelas) LC50: 0.00452 - 0.00638 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.00839 - 0.1802 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.0075 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 0.001339 - 0.001637 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.05 - 0.07 mg/L, 96h static (Lepomis macrochirus) LC50: 0.0242 - 0.0484 mg/L, 96h semi-static (Lepomis macrochirus) LC50: 0.009 - 0.02 mg/L, 96h flow-through (Lepomis macrochirus)	

12.2. Persistence and degradability
No information available

12.3. Bioaccumulative potential
No information available

12.4. Mobility in soil
No information available

12.5. Results of PBT and vPvB assessment
No information available

12.6. Other adverse effects
No information available

Endocrine Disruptor Information
No information available

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Triton® X-100	Group III Chemical	-	-

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products 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.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No Not Regulated
14.2 Proper Shipping Name Not Regulated
14.3 Hazard Class Not Regulated
14.4 Packing Group Not Regulated

14.5 Marine Pollutant	Not Applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

ICAO

14.1 UN-No	Not Regulated
14.2 Proper Shipping Name	Not Regulated
14.3 Hazard Class	Not Regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not Applicable
14.6 Special Provisions	None

IATA

14.1 UN-No	Not Regulated
14.2 Proper Shipping Name	Not Regulated
14.3 Hazard Class	Not Regulated
14.4 Packing Group	Not Regulated
14.5 Environmental hazard	Not Applicable
14.6 Special Provisions	None

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories

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

USINV/ TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CANINV/ DSL/NDSL - 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

15.2. Chemical safety assessment

A Chemical safety assessment according to regulation (EC) No. 1907/2006 is not required

SECTION 16: OTHER INFORMATION

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

Full text of R-phrases referred to under sections 2 and 3
R34 - Causes burns
R 8 - Contact with combustible material may cause fire
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Legend - SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Prepared By	Environmental, Health and Safety
Prepared For	Thermo Fisher Scientific Inc.
Issue Date	No information available
Revision Date	18-Nov-2015
Reason for revision	translation of template.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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 Scientifics 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