

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: **SMART Digest™ Buffer**
(Kit Component 2)

Product Number: 60109-101 (Kit Component 2 – Buffer)
60109-102 (Kit Component 2 – Buffer)
60109-103 (Kit Component 2 – Buffer)

Brand: Thermo Fisher Scientific

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

Identified uses: Laboratory reagents for research use only

1.3 Details of the supplier of the safety data sheet

Company: **Thermo Fisher Scientific**
Tudor Road
Cheshire, WA7 1AT, United Kingdom

Telephone: **+44-1928-534000**
Fax: **+44-1928-588106**
Email: **www.thermoscientific.com/chromexpert**

1.4 Emergency telephone number

Hazmat Service Emergency Number: **+1-800-424-9300**
International Hazmat Service Emergency Number: **+1-703-741-5970**

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412
Eye irritation (Category 2A), H319

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

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doct/ physician if you feel unwell
P280 Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330 Rinse mouth.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS No.</u>	<u>EINECS No.</u>	<u>Kit Component</u>	<u>Weight Percentage</u>
Water	7732-18-5	231-791-2	2	50-95%
Glycerol	56-81-5	200-289-5	2	<20%
Tris Base	77-86-1	201-064-4	2	<10%
Tris-HCl	1185-53-1	214-684-5	2	<10%
Calcium Chloride	10043-52-4	233-140-8	2	<10%
Sodium Azide	26628-22-8	247-852-1	2	<0.1%

Warning! Sodium azide, an acute toxin, is present in this product as a preservative. Contact with acidic solutions and metal compounds over time may form potentially explosive metal azides. Avoid contact with eyes, skin, and clothing. May cause mild irritation to eyes, skin, and gastrointestinal system.

SECTION 4: FIRST AID MEASURES
4.1 Description of first aid measures
In case of EYE CONTACT

Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.

In case of SKIN CONTACT

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops and persists.

If INHALED

Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

If INGESTED

Drink plenty of water. Seek medical advice. If ingestion of a large amount does occur, call a poison control center immediately.

Notes to physician

Treat symptomatically.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE-FIGHTING MEASURES
5.1 Extinguishing Media
Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxide (NOx), Hydrogen chloride gas

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary and protective suit.

5.4 Further information

No data available.

SECTION 6: ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep upwind. Ventilate the area. Avoid inhalation of vapors, mist, or gas from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 References to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2.2

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Glycerol	56-81-5	TWA	10 mg/m ³	USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000
			5 mg/m ³	USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000
			10 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation		
		See Appendix D – Substances with No Established RELs		
				USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
				USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face applied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid
b)	Odor	no data available
c)	Odor Threshold	no data available
d)	pH	no data available
e)	Melting point/freezing point	no data available
f)	Initial boiling point and boiling range	no data available
g)	Flash point	no data available
h)	Evaporation rate	no data available
i)	flammability (solid, gas)	no data available
j)	Upper/lower flammability or explosive limits	no data available
k)	Vapor Pressure	no data available
l)	Vapor density	no data available
m)	Relative density	no data available
n)	Water solubility	no data available
o)	Partition coefficient: n-octanol/water	no data available
p)	Auto-ignition temperature	no data available
q)	Decomposition temperature	no data available
r)	Viscosity	no data available
s)	Explosive properties	no data available
t)	Oxidizing properties	no data available

9.2 Other safety information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents. Heavy metals may form extremely explosive azides.

10.6 Hazardous decomposition products

Other decomposition products – no data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects**Acute toxicity**

No data available

Inhalation: no data available

Dermal: no data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity – single exposure

No data available

Specific target organ toxicity – repeated exposure

No data available

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver – Irregularities – Based on Human Evidence (Sodium azide)

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances

Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard	Yes
Delayed Hazard	No
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

Section 311 hazardous chemical

Yes

Country(s) or region Inventory name On inventory (yes/no)*

Australia: Australian Inventory of Chemical Substances (AICS)	Yes
Canada: Domestic Substances List (DSL)	Yes
Canada: Non-Domestic Substances List (NDSL)	No
China: Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe: European List of Notified Chemical Substances (ELINCS)	No
Japan: Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea: Existing Chemicals List (ECL)	Yes
New Zealand: New Zealand Inventory	Yes
Philippines: Philippine Inventory of Chemicals and	Yes

Chemical Substances (PICCS)

United States & Puerto Rico: Toxic Substances

Yes

Control Act (TSCA) Inventory

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Sodium azide	CAS-No. 26628-22-8	Revision Date 2007-07-01
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SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Chronic Health Hazard

Massachusetts Right To Know Components

Glycerol	CAS-No. 56-81-5	Revision Date 2007-03-01
Sodium azide	26628-22-8	2007-07-01

Pennsylvania Right To Know Components

Water	CAS-No. 7732-18-5	Revision Date
Glycerol	56-81-5	2007-03-01
Calcium Chloride	10043-52-4	
2-Amino-2-(hydroxymethyl)propane- 1,3-diol hydrochloride	1185-53-1	
Tris (hydroxymethyl) aminomethane	77-86-1	
Sodium azide	26628-22-8	2007-07-01

New Jersey Right To Know Components

Water	CAS-No. 7732-18-5	Revision Date
Glycerol	56-81-5	2007-03-01
Calcium Chloride	10043-52-4	
2-Amino-2-(hydroxymethyl)propane- 1,3-diol hydrochloride	1185-53-1	
Tris (hydroxymethyl) aminomethane	77-86-1	

California Prop. 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Saf-T-Data

Health:	2 – Moderate
Flammability:	2 – Moderate
Reactivity:	1 – Slight
Contact:	2 – Moderate

Lab Protective Equip

B - GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code

G - Green (General Storage)

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical Hazard:	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Thermo Fisher shall not be held liable for any damage resulting from handling or from contact with the above product.