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

1.1. Product identifier

Product Code/Catalogue Number:	VITD_SSS_211015_Jah
SDS Number:	SDS_VITD System Suitability Solution _EN
Product Name	**VITD System Suitability Solution**

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

Recommended Use	For research use only.

1.3. Details of the supplier of the safety data sheet

Company	**Thermo Fisher Scientific Oy** Ratastie 2, FI-01620 Vantaa, Finland
Telephone number	+358 10 329200
E-mail address	cascadion.sds@thermofisher.com www.thermofisher.com/cascadion www.e-labelling.eu/TSF

1.4. Emergency telephone number

CHEMTREC INTERNATIONAL +1 703-741-5970

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Flammable liquids	Category 2 (H225)
Acute oral toxicity	Category 4 (H302)
Acute dermal toxicity	Category 4 (H312)
Acute Inhalation Toxicity - Vapors	Category 4 (H332)
Serious Eye Damage/Eye Irritation	Category 2 (H319)

2.2. Label elements

Signal Word **Danger**

Hazard Statements
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled

H319 - Causes serious eye irritation

Precautionary Statements

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Acetonitrile (CAS #: 75-05-8)	60	Flam. Liq. 2 (H225) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Eye Irrit. 2 (H319) Acute Tox. 4 (H332)

Component	Reach Registration Number	
Acetonitrile	NA	

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Ingestion
Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.

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

See section 2 for more information. Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

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

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Carbon dioxide (CO2). Powder. Alcohol resistant foam. Water spray.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous Combustion Products
None under normal use conditions.

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

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep in properly labeled containers. Store in accordance with local regulations.

7.3. Specific end use(s)

Use as laboratory reagent

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Component Exposure Limits

Component	Finland	European Union	The United Kingdom	Germany
Acetonitrile	TWA: 20 ppm 8 tunteina TWA: 34 mg/m³ 8 tunteina STEL: 40 ppm 15 minuutteina	TWA: 40 ppm (8hr) TWA: 70 mg/m³ (8hr) Skin	STEL: 60 ppm 15 min STEL: 102 mg/m³ 15 min TWA: 40 ppm 8 hr TWA: 68 mg/m³ 8 hr	TWA: 10 ppm (8 Stunden). AGW - exposure factor 2 TWA: 17 mg/m³ (8 Stunden). AGW - exposure factor 2

	STEL: 68 mg/m³ 15 minuutteina Iho			TWA: 10 ppm (8 Stunden). MAK TWA: 17 mg/m³ (8 Stunden). MAK TWA: 2 mg/m³ (8 Stunden). MAK Höhepunkt: 20 ppm Höhepunkt: 34 mg/m³ Höhepunkt: 2 mg/m³ Haut

Component	Sweden	Norway	Denmark	France
Acetonitrile	Indicative STEL: 60 ppm 15 minuter Indicative STEL: 100 mg/m³ 15 minuter TLV: 30 ppm 8 timmar. NGV TLV: 50 mg/m³ 8 timmar. NGV Hud	TWA: 30 ppm 8 timer TWA: 50 mg/m³ 8 timer TWA: 5 mg/m³ 8 timer STEL: 45 ppm 15 minutter. value calculated STEL: 75 mg/m³ 15 minutter. value calculated Hud	TWA: 40 ppm 8 timer TWA: 70 mg/m³ 8 timer Hud	TWA / VME: 40 ppm (8 heures). restrictive limit TWA / VME: 70 mg/m³ (8 heures). restrictive limit TWA / VME: 5 mg/m³ (8 heures). Peau

8.2. Exposure controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers recommendations	5 mm	EN 374	Permeation rate 1 h 1

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection
Long sleeved clothing

Respiratory Protection
In case of insufficient ventilation, wear suitable respiratory equipment.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Small scale/Laboratory use
Maintain adequate ventilation

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

Environmental exposure controls
Prevent product from entering drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	No information available	
Physical State	Liquid	
Odor	No information available	
Odor Threshold	No data available	
pH	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No data available	
Flash Point	18.3 °C	**Method -** No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	No information available	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Acetonitrile	-0.34

Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

Oral	Category 4
Dermal	Category 4
Inhalation	Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetonitrile	450-787 mg/kg (Rat) 2460 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	LC50 = 3587 ppm (6.022 mg/l) (Mouse) 4h LC50 = 16,000 ppm (26.8 mg/l) (Rat) 4h

(b) skin corrosion/irritation;
Not classified.
(c) serious eye damage/irritation;
Category 2.
Eye Contact Severely irritating to eyes

(d) respiratory or skin sensitization;
Respiratory
Not classified.
Skin
Not classified.

(e) germ cell mutagenicity;
Not classified

(f) carcinogenicity;
Not classified

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;
Not classified.

(h) STOT-single exposure;
Not classified.

(i) STOT-repeated exposure;
Based on available data, the classification criteria are not met.

Target Organs
None known.

(j) aspiration hazard;
Based on available data, the classification criteria are not met.

Symptoms / effects,both acute and delayed
Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Acetonitrile	LC50: = 1850 mg/L, 96h static (Lepomis macrochirus) LC50: = 1000 mg/L, 96h static (Pimephales promelas) LC50: 1600 - 1690 mg/L, 96h flow-through (Pimephales promelas) LC50: = 1650 mg/L, 96h static (Poecilia reticulata)			EC50 = 28000 mg/L 48 h EC50 = 73 mg/L 24 h EC50 = 7500 mg/L 15 h

12.2. Persistence and degradability
No information available

12.3. Bioaccumulative potential
No information available

Component	log Pow	Bioconcentration factor (BCF)
Acetonitrile	-0.34	No data available

12.4. Mobility in soil
No information available

12.5. Results of PBT and vPvB assessment
This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties
None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products
Dispose of in accordance with local regulations.

Contaminated Packaging
Dispose of in accordance with local regulations.

SECTION 14: TRANSPORT INFORMATION

	IMDG/IMO	ADR	IATA
14.1. UN number	UN1648	UN1648	UN1648
14.2. UN proper shipping name	Acetonitrile	Acetonitrile	Acetonitrile
14.3. Transport hazard class(es)	3	3	3
14.4. Packing group	II	II	II

14.5. Environmental hazards
No hazards identified

14.6. Special precautions for user
No special precautions required

14.7. Maritime transport in bulk according to IMO instruments
Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

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

International Inventories X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Acetonitrile	200-835-2	-		X	X	-	X	X	X	X	KE-00067

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Acetonitrile		Use restricted. See item 75. (see link for restriction details)	

National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Acetonitrile	WGK2	

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H319 - Causes serious eye irritation
H332 - Harmful if inhaled

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%

NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic

POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC (volatile organic compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Version	1
Revision Date	10-Feb-2022
Reason for revision	Not applicable.

Disclaimer

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