



Cell Signaling

TECHNOLOGY®

SAFETY DATA SHEET (SDS): According to the REACH Regulation (EC) No. 1907/2006

Issuing Date: 2014-07-25

Revision Date: 2014-09-13

Version: 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product number 8424
Product name DVL2_HUMAN 125-161 N139 to D139 AQUA Peptide
Reach registration number This substance/mixture contains only ingredients which have been registered, or are exempt from registration, according to Regulation (EC) No. 1907/2006.

Contains

Chemical Name	Index No.	CAS No
acetonitrile (10-30)	608-001-00-3	75-05-8
trifluoroacetic acid (0.1-1)	607-091-00-1	76-05-1

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

Identified uses This product is intended for research purposes only.
Uses advised against This product is not intended for use in diagnostic procedures or therapeutics.
This product is not intended for use in humans or animals.

1.3. Details of the supplier of the safety data sheet

Importer	Manufacturer
Cell Signaling Technology Europe B.V. Schuttersveld 2 2316 ZA Leiden The Netherlands TEL: +31 71 562 1060 FAX: +31 71 586 1065	Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 United States TEL: +1 978 867 2300 FAX: +1 978 867 2400

Website www.cellsignal.com
E-mail Address info@cellsignal.eu

1.4. Emergency telephone number

Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Flammable liquids	Category 2 - (H225)

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

Directives 67/548/EEC and 1999/45/EC

Symbol(s) C - Corrosive
F - Highly flammable

R-phrases(s) F;R11 - C;R34

For the full text of the R-phrases mentioned in this Section, see Section 16

2.2. Label elements



Signal word
Danger

Hazard statement(s)

H314 - Causes severe skin burns and eye damage
H225 - Highly flammable liquid and vapor

Precautionary statement(s)

P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

None required for material as supplied

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight %	Classification (67/548)	Classification (1272/2008)	REACH Registration Number
acetonitrile	200-835-2	75-05-8	10-30	F; R11 Xn; R20/21/22 Xi; R36	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Eye Irrit. 2 (H319) Flam. Liq. 2 (H225)	no data available
trifluoroacetic acid	200-929-3	76-05-1	0.1-1	Xn; R20 C; R35 R52-53	Acute Tox. 4 (H332) Skin Corr. 1A (H314) Aquatic Chronic 3 (H412)	no data available

For the full text of the R-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air. Immediate medical attention is required. Move to fresh air in case of accidental inhalation of vapors. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Skin contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down this is a test. Clean mouth with water. If swallowed, do not induce vomiting - seek medical advice.
Protection of first-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

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

Main symptoms	No information or data specific to the product on this toxicological (health) effect is available Symptoms of acute acetonitrile exposure include: chest pain, dizziness, weakness, tightness in the chest, nausea, vomiting, tachycardia, hypotension, short and shallow respiration, headache, restlessness and seizures.
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4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Cool containers / tanks with water spray.
Unsuitable Extinguishing Media	No information available.

5.2. Special hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Heat, flames and sparks. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.
For emergency responders	Use personal protection recommended in Section 8.
Other information	Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Prevention of fire and explosion. A vapor suppressing foam may be used to reduce vapors. Try to prevent the material from entering drains or water courses. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

**Methods for containment
Methods for cleaning up**

Prevent further leakage or spillage if safe to do so.
Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 8 and 13 for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. There is a hazard associated with rags, paper or any other material used to remove spills which become soaked with product. Avoid accumulation of these: they are to be disposed off safely after use. Avoid static electricity build up with connection to earth. When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Use as laboratory reagent (PROC15).

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values					
Chemical Name	European Union	United Kingdom	France	Spain	Germany
acetonitrile	TWA 40 ppm TWA 70 mg/m ³ S*	STEL 60 ppm STEL 102 mg/m ³ STEL 15 mg/m ³ TWA 40 ppm TWA 68 mg/m ³ TWA 5 mg/m ³ Skin	TWA 40 ppm TWA 70 mg/m ³ TWA 5 mg/m ³ P*	TWA 40 ppm TWA 68 mg/m ³ S*	TWA: 20 ppm TWA: 34 mg/m ³ Skin Ceiling / Peak: 40 ppm Ceiling / Peak: 68 mg/m ³ Ceiling / Peak: 2 mg/m ³ TWA: 2 mg/m ³ H*
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark

acetonitrile	TWA 20 ppm TWA 35 mg/m ³ Pelle*	TWA 20 ppm C(A4) P*	Huid* STEL 10 mg/m ³ TWA 34 mg/m ³ TWA 1 mg/m ³	TWA 20 ppm TWA 34 mg/m ³ TWA 1 mg/m ³ STEL 40 ppm STEL 68 mg/m ³ STEL 5 mg/m ³ iho*	TWA 40 ppm TWA 70 mg/m ³ H*
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
acetonitrile	H* STEL 160 ppm STEL 280 mg/m ³ TWA 40 ppm TWA 70 mg/m ³	SS-C** H* TWA 20 ppm TWA 34 mg/m ³ STEL 40 ppm STEL 68 mg/m ³	TWA 70 mg/m ³ STEL 140 mg/m ³	TWA 30 ppm TWA 50 mg/m ³ TWA 5 mg/m ³ S* STEL 45 ppm STEL 75 mg/m ³ STEL 10 mg/m ³	TWA 40 ppm TWA 70 mg/m ³ TWA 5 mg/m ³ Skin

8.2. Exposure controls

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection

Tightly fitting safety goggles. Face-shield.

Skin protection

Hand protection

Impervious gloves.

Other

Impervious gloves. Antistatic boots. Wear fire/flame resistant/retardant clothing. Impervious clothing. Chemical resistant apron. Boots. Wear suitable protective clothing.

Respiratory protection

The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Recommended filter

Type A Type E

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
Color	Colorless
Odor	Aromatic of ether, sweet
Odor Threshold	~170 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	1.93	@ 20 °C
Melting point/freezing point		No information available
Initial boiling point and boiling range	81.6 °C	@ 1 atm
Flash point	12.5 °C	Closed cup
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper flammability limit		No information available
Lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Relative density		No information available
Solubility		No information available

Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available.
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

9.2. Other information

Softening point	No information available
Solubility in other solvents	No information available
VOC content	No information available
Density	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization	Hazardous polymerization does not occur.
Hazardous reactions	None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks. Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

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

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
acetonitrile	= 1327 mg/kg (Rat)	= 1250 mg/kg (Rabbit)	= 7500 ppm (Rat) 4 h
trifluoroacetic acid	-	-	= 10,000 mg/m ³ (Rat)

Information on likely routes of exposure

Inhalation	Vapours may irritate throat and respiratory system.
Eye contact	May cause irreversible damage to eyes.
Skin contact	Prolonged skin contact may cause burns.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms	Symptoms of acute acetonitrile exposure include: chest pain, dizziness, weakness, tightness in the chest, nausea, vomiting, tachycardia, hypotension, short and shallow respiration, headache, restlessness and seizures.
Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Sensitization	No information available.
Mutagenic effects	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target Organ Effects	Central nervous system (CNS), Respiratory system, Kidney, Liver, Heart.
Aspiration Hazard	No information available.
Other information	Systemic effects are attributable to the conversion of acetonitrile to cyanide. Onset of symptoms are delayed.... because the parent molecule has no apparent intrinsic toxicity, but undergoes a two-step activation reaction mediated by cytochrome P450 enzymes (p-450IIE1).

SECTION 12: Ecological information

12.1. Toxicity

No information available.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
acetonitrile	-	LC50 1640 mg/L (Pimephales promelas) 96 h	EC50 5838 mg/L (Daphnia pulex) 18 h

12.2. Persistence and degradability

Product is biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation	Not likely to bioaccumulate.
Bioconcentration factor (BCF)	No information available.

Chemical Name	Octanol-Water Partition Coefficient
acetonitrile	-0.34

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

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
acetonitrile	-	-	-

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Do not re-use empty containers. Empty containers may contain flammable or explosive vapours. Do not burn, or use a cutting torch on, the empty drum. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Other information	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG/IMO

14.1 UN number	UN2924
14.2 UN proper shipping name	Flammable liquid, corrosive, n.o.s. (acetonitrile, trifluoroacetic acid)
14.3 Transport hazard class(es)	3(8)
14.4 Packing group	II
14.5 Environmental hazards	None
14.6 Special precautions for user	None
EmS No.	F-E, S-C
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated

ADR/RID

14.1 UN number	UN2924
14.2 UN proper shipping name	Flammable liquid, corrosive, n.o.s. (acetonitrile, trifluoroacetic acid)
14.3 Transport hazard class(es)	3(8)
14.4 Packing group	II
14.5 Environmental hazards	None
14.6 Special precautions for user	None
Classification Code	FC
Tunnel Restriction Code	(D/E)

IATA

14.1 UN number	UN2924
14.2 UN proper shipping name	Not regulated (acetonitrile, trifluoroacetic acid)
14.3 Transport hazard class(es)	3(8)
14.4 Packing group	II
14.5 Environmental hazards	None
14.6 Special precautions for user	None
ERG code	3CH

SECTION 15: Regulatory information

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

Candidate List of Substances of Very High Concern for Authorisation Information

This product does not contain Substances of Very High Concern (SVHC).

SEVESO Directive Information

P5c - Flammable Liquids [5000 tonnes (Lower-tier) 50,000 tonnes (Upper-tier)]

International inventories

TSCA 8(b)	-
DSL/NDL	-
EINECS/ELINCS	-
ENCS	-

IECSC -
KECL -
PICCS -
AICS -

International inventories legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
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 - Japan Existing and New Chemical Substances
IECSC - China 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 has not been completed for this substance/mixture.

SECTION 16: Other information

Full text of R-Phrases referred to under Sections 2 and 3

R11 - Highly flammable
R20 - Harmful by inhalation
R35 - Causes severe burns
R36 - Irritating to eyes
R37 - Irritating to respiratory system
R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H319 - Causes serious eye irritation
H225 - Highly flammable liquid and vapor
H314 - Causes severe skin burns and eye damage
H412 - Harmful to aquatic life with long lasting effects
H335 - May cause respiratory irritation

Classification procedure: Calculation method. Bridging principle "Dilution".
Issuing Date: 2014-07-25
Revision Date: 2014-09-13
Reason for revision: not applicable.

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.