

Kit components

Product CaspACE™ Assay System, Fluorometric

160 assays

Product code G3540

Substance number	Description	Amount	Symbols
G573	AMC Standard	1	-
G580	ICE Substrate Ac-YVAD-AMC, 10mM	1	Xn
G587	ICE Inhibitor Ac-YVAD-CHO, 10mM	1	Xn
G594	CPP32 Substrate Ac-DEVD-AMC, 10mM	1	Xn
G595	Caspase Assay Buffer	2	-
G596	CPP32-Inhibitor Ac-DEVD-CHO, 10mM	1	Xn

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

1 Identification of substance**Trade name:** AMC Standard**Article number:** G573**Application of the substance / the preparation** Laboratory chemicals**Manufacturer/Supplier:**

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

MSDS author: Regulatory.Affairs@promega.com**Emergency information:**

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/Data on components**Chemical characterization:****CAS No. Description**

26093-31-2 7-amino-4-methylcoumarin

Identification number(s)**EINECS Number:** 247-454-8*** 3 Hazards identification****Hazard description:** Not applicable. Product has been classified as non-hazardous.**Information pertaining to particular dangers for man and environment:** Not applicable.**Classification system:**

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

NFPA ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Not applicable

Target Organ(s): Not applicable or unknown

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: AMC Standard

(Contd. of page 1)

4 First aid measures

General information: No special measures required.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

5 Fire fighting measures

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Protective equipment: No special measures required.

6 Accidental release measures

Person-related safety precautions: Not required.

Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting: Pick up mechanically.

Additional information: No dangerous substances are released.

7 Handling and storage

Handling:

Information for safe handling: No special measures required.

Information about protection against explosions and fires: The product is not flammable.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace: Not required.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

(Contd. on page 3)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: AMC Standard

(Contd. of page 2)

Eye protection: Not required.

9 Physical and chemical properties

General Information

Form:	Crystalline
Color:	White
Odor:	Characteristic

Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gaseous): Product is not flammable.

Danger of explosion: Product does not present an explosion hazard.

Density: Not determined.

Solubility in / Miscibility with

Water:	Insoluble.
Organic solvents:	0.0 %

Solids content: 100.0 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided:

Dangerous reactions: No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

12 Ecological information

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: AMC Standard

(Contd. of page 3)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

Product:

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15 Regulations

Sara

Section 355 (extremely hazardous substances):

Substance is not listed.

Section 313 (Specific toxic chemical listings):

Substance is not listed.

TSCA (Toxic Substances Control Act):

Substance is listed.

Proposition 65

Chemicals known to cause cancer:

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: AMC Standard

(Contd. of page 4)

Chemicals known to cause developmental toxicity:

Substance is not listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

Substance is not listed.

IARC (International Agency for Research on Cancer)

Substance is not listed.

NTP (National Toxicology Program)

Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

MAK (German Maximum Workplace Concentration)

Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The substance is not subject to classification according to the sources of literature known to us.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

1 Identification of substance**Trade name:** ICE Substrate Ac-YVAD-AMC, 10mM**Article number:** G580**Application of the substance / the preparation** Laboratory chemicals**Manufacturer/Supplier:**

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

MSDS author: Regulatory.Affairs@promega.com**Emergency information:**

For Chemical Emergency **ONLY** (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/Data on components**Chemical characterization****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

67-68-5	dimethyl sulfoxide	75-100%
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Additional information: For the wording of the listed risk phrases refer to section 15.*** 3 Hazards identification****Hazard description:**

Xn Harmful

Information pertaining to particular dangers for man and environment:

Harmful if swallowed.

Irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Substrate Ac-YVAD-AMC, 10mM

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Toxic

Irritant

Combustible

Primary route(s) of entry:

Dermal

Oral

Target Organ(s):

Dermal hazard (Cutaneous hazard)

Risk of damage to eyes

4 First aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Medical supervision for at least 48 hours.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

6 Accidental release measures

Person-related safety precautions: Wear protective clothing.

Measures for environmental protection:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7 Handling and storage

Handling:**Information for safe handling:**

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Substrate Ac-YVAD-AMC, 10mM

(Contd. of page 2)

Prevent formation of aerosols.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

67-68-5 dimethyl sulfoxide

WEEL	250 ppm
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Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

General Information

Form:	Fluid
Color:	Colorless
Odor:	Characteristic

Change in condition

Melting point/Melting range: 18.45°C (65°F)

Boiling point/Boiling range: 189°C (372°F)

Flash point: > 55°C (> 131°F)

Ignition temperature: 270°C (518°F)

Auto igniting: Product is not selfigniting.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Substrate Ac-YVAD-AMC, 10mM

(Contd. of page 3)

Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	1.8 Vol %
Upper:	Zers Vol %
Vapor pressure at 20°C (68°F):	2.5 hPa (2 mm Hg)
Density at 20°C (68°F):	1.1 g/cm ³
Solubility in / Miscibility with Water:	Fully miscible.
Solvent content:	
Organic solvents:	99.3 %
VOC content:	99.3 %
Solids content:	0.6 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided:

Dangerous reactions: No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

67-68-5 dimethyl sulfoxide

Oral	LD50	14500 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit) mild irritation

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

12 Ecological information

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Substrate Ac-YVAD-AMC, 10mM

(Contd. of page 4)

13 Disposal considerations

Product:**Recommendation:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15 Regulations

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

67-68-5 dimethyl sulfoxide

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Substrate Ac-YVAD-AMC, 10mM

(Contd. of page 5)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

Xn Harmful

Hazard-determining components of labelling:

dimethyl sulfoxide

Risk phrases:

Harmful if swallowed.

Irritating to eyes and skin.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing and gloves.

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
NK	99.3

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

1 Identification of substance**Trade name:** ICE Inhibitor Ac-YVAD-CHO, 10mM**Article number:** G587**Application of the substance / the preparation** Laboratory chemicals**Manufacturer/Supplier:**

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

MSDS author: Regulatory.Affairs@promega.com**Emergency information:**

For Chemical Emergency **ONLY** (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/Data on components**Chemical characterization****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

67-68-5	dimethyl sulfoxide	75-100%
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Additional information: For the wording of the listed risk phrases refer to section 15.*** 3 Hazards identification****Hazard description:**

Xn Harmful

Information pertaining to particular dangers for man and environment:

Harmful if swallowed.

Irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Inhibitor Ac-YVAD-CHO, 10mM

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Toxic

Irritant

Combustible

Primary route(s) of entry:

Dermal

Oral

Target Organ(s):

Dermal hazard (Cutaneous hazard)

Risk of damage to eyes

4 First aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Medical supervision for at least 48 hours.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

6 Accidental release measures

Person-related safety precautions: Wear protective clothing.

Measures for environmental protection:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7 Handling and storage

Handling:**Information for safe handling:**

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Inhibitor Ac-YVAD-CHO, 10mM

(Contd. of page 2)

Prevent formation of aerosols.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

67-68-5 dimethyl sulfoxide

WEEL	250 ppm
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Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

General Information

Form:	Fluid
Color:	Colorless
Odor:	Characteristic

Change in condition

Melting point/Melting range: 18.45°C (65°F)

Boiling point/Boiling range: 189°C (372°F)

Flash point: > 55°C (> 131°F)

Ignition temperature: 270°C (518°F)

Auto igniting: Product is not selfigniting.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Inhibitor Ac-YVAD-CHO, 10mM

(Contd. of page 3)

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: 1.8 Vol %

Upper: Zers Vol %

Vapor pressure at 20°C (68°F): 2.5 hPa (2 mm Hg)

Density at 20°C (68°F): 1.1 g/cm³

Solubility in / Miscibility with

Water: Fully miscible.

Solvent content:

Organic solvents: 99.4 %

VOC content: 99.4 %

Solids content: 0.6 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided:

Dangerous reactions No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

67-68-5 dimethyl sulfoxide

Oral	LD50	14500 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit) mild irritation

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

12 Ecological information

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Inhibitor Ac-YVAD-CHO, 10mM

(Contd. of page 4)

13 Disposal considerations

Product:**Recommendation:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15 Regulations

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

67-68-5 dimethyl sulfoxide

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

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Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: ICE Inhibitor Ac-YVAD-CHO, 10mM

(Contd. of page 5)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

Xn Harmful

Hazard-determining components of labelling:

dimethyl sulfoxide

Risk phrases:

Harmful if swallowed.

Irritating to eyes and skin.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing and gloves.

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
NK	99.4

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

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acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

1 Identification of substance

Trade name: CPP32 Substrate Ac-DEVD-AMC, 10mM

Article number: G594

Application of the substance / the preparation Laboratory chemicals

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

MSDS author: Regulatory.Affairs@promega.com

Emergency information:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/Data on components

Chemical characterization

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

67-68-5	dimethyl sulfoxide	75-100%
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Additional information: For the wording of the listed risk phrases refer to section 15.

*** 3 Hazards identification**

Hazard description:



Xn Harmful

Information pertaining to particular dangers for man and environment:

Harmful if swallowed.

Irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32 Substrate Ac-DEVD-AMC, 10mM

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Toxic

Irritant

Combustible

Primary route(s) of entry:

Dermal

Oral

Target Organ(s):

Dermal hazard (Cutaneous hazard)

Risk of damage to eyes

4 First aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Medical supervision for at least 48 hours.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

6 Accidental release measures

Person-related safety precautions: Wear protective clothing.

Measures for environmental protection:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7 Handling and storage

Handling:**Information for safe handling:**

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32 Substrate Ac-DEVD-AMC, 10mM

(Contd. of page 2)

Prevent formation of aerosols.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

67-68-5 dimethyl sulfoxide

WEEL	250 ppm
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Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

General Information

Form:	Fluid
Color:	Colorless
Odor:	Characteristic

Change in condition

Melting point/Melting range: 18.45°C (65°F)

Boiling point/Boiling range: 189°C (372°F)

Flash point: > 55°C (> 131°F)

Ignition temperature: 270°C (518°F)

Auto igniting: Product is not selfigniting.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32 Substrate Ac-DEVD-AMC, 10mM

(Contd. of page 3)

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: 1.8 Vol %

Upper: Zers Vol %

Vapor pressure at 20°C (68°F): 2.5 hPa (2 mm Hg)

Density at 20°C (68°F): 1.1 g/cm³

Solubility in / Miscibility with

Water: Fully miscible.

Solvent content:

Organic solvents: 99.3 %

VOC content: 99.3 %

Solids content: 0.6 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided:

Dangerous reactions: No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

67-68-5 dimethyl sulfoxide

Oral	LD50	14500 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit) mild irritation

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

12 Ecological information

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32 Substrate Ac-DEVD-AMC, 10mM

(Contd. of page 4)

13 Disposal considerations

Product:**Recommendation:**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15 Regulations

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

67-68-5 dimethyl sulfoxide

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32 Substrate Ac-DEVD-AMC, 10mM

(Contd. of page 5)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

Xn Harmful

Hazard-determining components of labelling:

dimethyl sulfoxide

Risk phrases:

Harmful if swallowed.

Irritating to eyes and skin.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing and gloves.

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
NK	99.3

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

1 Identification of substance

Trade name: Caspase Assay Buffer

Article number: G595

Application of the substance / the preparation Laboratory chemicals

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

MSDS author: Regulatory.Affairs@promega.com

Emergency information:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/Data on components

Chemical characterization

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

57-50-1	sucrose, pure	25-50%
75621-03-3	3-[(3-Choalamidopropyl)dimethylammonio]propanesulfonic acid	<1.00%

Additional information: For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

Hazard description: Not applicable. Product has been classified as non-hazardous.

Information pertaining to particular dangers for man and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

NFPA ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: Caspase Assay Buffer

Target Organ(s): Not applicable or unknown

(Contd. of page 1)

4 First aid measures

General information: No special measures required.
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If symptoms persist consult doctor.

5 Fire fighting measures

Suitable extinguishing agents:
 CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Protective equipment: No special measures required.

6 Accidental release measures

Person-related safety precautions: Not required.
Measures for environmental protection: No special measures required.
Measures for cleaning/collecting:
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Additional information: No dangerous substances are released.

7 Handling and storage

Handling:
Information for safe handling: No special measures required.
Information about protection against explosions and fires: The product is not flammable.
Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

57-50-1 sucrose, pure

PEL	15* 5** mg/m ³ *total dust **respirable fraction
REL	10* 5** mg/m ³ *total dust **respirable fraction
TLV	10 mg/m ³

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:
General protective and hygienic measures:
 The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: Caspase Assay Buffer

(Contd. of page 2)

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Form:	Fluid
Color:	Colorless
Odor:	Characteristic

Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 100°C (212°F)

Flash point: Not applicable.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Density: Not determined.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

pH-value at 20°C (68°F): 7.5

Solvent content:

Organic solvents: 0.0 %
Water: 67.4 %

Solids content: 32.6 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided:

Dangerous reactions No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: Caspase Assay Buffer

(Contd. of page 3)

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Additional ecological information:

General notes: Generally not hazardous for water

13 Disposal considerations

Product:

Recommendation:

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

Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15 Regulations

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: Caspase Assay Buffer

(Contd. of page 4)

Proposition 65**Chemicals known to cause cancer:**

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

57-50-1 sucrose, pure

A4

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:**Water hazard class:** Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

1 Identification of substance

Trade name: CPP32-Inhibitor Ac-DEVD-CHO, 10mM

Article number: G596

Application of the substance / the preparation Laboratory chemicals

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

MSDS author: Regulatory.Affairs@promega.com

Emergency information:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/Data on components

Chemical characterization

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

67-68-5	dimethyl sulfoxide	75-100%
---------	--------------------	---------

Additional information: For the wording of the listed risk phrases refer to section 15.

*** 3 Hazards identification**

Hazard description:



Xn Harmful

Information pertaining to particular dangers for man and environment:

Harmful if swallowed.

Irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32-Inhibitor Ac-DEVD-CHO, 10mM

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 2

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Toxic

Irritant

Combustible

Primary route(s) of entry:

Dermal

Oral

Target Organ(s):

Dermal hazard (Cutaneous hazard)

Risk of damage to eyes

4 First aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Medical supervision for at least 48 hours.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

6 Accidental release measures

Person-related safety precautions: Wear protective clothing.

Measures for environmental protection:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7 Handling and storage

Handling:

Information for safe handling:

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32-Inhibitor Ac-DEVD-CHO, 10mM

(Contd. of page 2)

Prevent formation of aerosols.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

67-68-5 dimethyl sulfoxide

WEEL	250 ppm
-------------	---------

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

General Information

Form:	Fluid
Color:	Colorless
Odor:	Characteristic

Change in condition

Melting point/Melting range: 18.45°C (65°F)

Boiling point/Boiling range: 189°C (372°F)

Flash point: > 55°C (> 131°F)

Ignition temperature: 270°C (518°F)

Auto igniting: Product is not selfigniting.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32-Inhibitor Ac-DEVD-CHO, 10mM

(Contd. of page 3)

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: 1.8 Vol %

Upper: Zers Vol %

Vapor pressure at 20°C (68°F): 2.5 hPa (2 mm Hg)

Density at 20°C (68°F): 1.1 g/cm³

Solubility in / Miscibility with

Water: Fully miscible.

Solvent content:

Organic solvents: 99.4 %

VOC content: 99.4 %

Solids content: 0.6 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Materials to be avoided:

Dangerous reactions No dangerous reactions known.

Dangerous products of decomposition: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

67-68-5 dimethyl sulfoxide

Oral	LD50	14500 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit) mild irritation

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

12 Ecological information

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32-Inhibitor Ac-DEVD-CHO, 10mM

(Contd. of page 4)

13 Disposal considerations

Product:

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15 Regulations

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

67-68-5 dimethyl sulfoxide

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2010

Reviewed on 06/15/2010

Trade name: CPP32-Inhibitor Ac-DEVD-CHO, 10mM

(Contd. of page 5)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

Xn Harmful

Hazard-determining components of labelling:

dimethyl sulfoxide

Risk phrases:

Harmful if swallowed.

Irritating to eyes and skin.

Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing and gloves.

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
NK	99.5

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

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* Data compared to the previous version altered.