

07/04/2016

Kit Components

Product code	Description
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G6521	Protease Inhibitor Cocktail, 50x, 1ml
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Components:

G652A	Protease Inhibitor Cocktail
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Safety Data Sheet
acc. to OSHA HCS

Printing date 07/04/2016

Reviewed on 06/30/2016

1 Identification

Product identifier

Trade name: Protease Inhibitor Cocktail

Article number: G652A

Application of the substance / the mixture Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

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

Information department: SDS author: Regulatory.Affairs@promega.com

Emergency telephone number:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms GHS05, GHS06

Signal word Danger

Hazard-determining components of labeling:

alpha-toluenesulphonyl fluoride

1,10-phenanthroline

Hazard statements

Toxic if swallowed.

Causes severe skin burns and eye damage.

Precautionary statements

Wash thoroughly after handling.

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Do not eat, drink or smoke when using this product.

Do not breathe dusts or mists.

Wear eye protection / face protection.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)

Health = 3

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 3

Fire = 0

Reactivity = 0

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

Highly Toxic

Corrosive

Environmental Toxin

Environmental Hazard

Primary route(s) of entry:

Dermal

Inhalation

Oral

Target Organ(s): Not applicable or unknown

Other hazards

This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

* 3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances may be withheld as a Promega Corp. trade secret.

Dangerous components:

329-98-6	alpha-toluenesulphonyl fluoride	75-100%
1670-14-0	benzamidine chloride	5-10%
66-71-7	1,10-phenanthroline	1.0-5.0%

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

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4 First-aid measures

Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

Seek medical treatment.

Provide oxygen treatment if affected person has difficulty breathing.

Medical supervision for at least 48 hours.

After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

Call a doctor immediately.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact: Call a doctor immediately.

After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed None

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:

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

Special hazards arising from the substance or mixture None known

Advice for firefighters In the case of fire, wear respiratory protective equipment and chemical protective suit.

Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Wear protective equipment. Keep unprotected persons away.

Avoid formation of dust.

Keep people at a distance and stay upwind.

Wear protective clothing.

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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

Methods and material for containment and cleaning up:

Use neutralizing agent.

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Dispose contaminated material as waste according to Section 13.
 Pick up mechanically.
 Ensure adequate ventilation.
Reference to other sections
 See Section 7 for information on safe handling.
 See Section 13 for disposal information.

7 Handling and storage

Handling:

Precautions for safe handling

Thorough dedusting.
 Keep receptacles tightly sealed.
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Work only in fume cabinet.

Information about protection against explosions and fires:

Keep respiratory protective device available.
 The product is not flammable.

Conditions for safe storage, including any incompatibilities

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.
Specific end use(s) No further relevant information available.

* 8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Ingredients with biological limit values:

329-98-6 alpha-toluenesulphonyl fluoride

BEI	2 mg/L Medium: urine Time: prior to shift Parameter: Fluoride (background, nonspecific)
	3 mg/L Medium: urine Time: end of shift Parameter: Fluoride (background, nonspecific)

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Ensure that washing facilities are available at the work place.
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.

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Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Select the glove material considering penetration time, rate of diffusion and degradation time.

It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

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

Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Solid
Color:	Colorless
Odor:	Not determined
Odor threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.

Flammability (solid, gaseous): Not determined.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

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

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.

Density:	Not determined.
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.

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Solubility in / Miscibility with

Water: Insoluble.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: Not applicable.
Kinematic: Not applicable.

Organic solvents: 0.0 %

Solids content: 100.0 %

Other information No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: Caustic effect on skin and mucous membranes.

on the eye:

Strong caustic effect.

Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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

Toxic

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories
IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

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12 Ecological information

Toxicity

Aquatic toxicity: Toxic to aquatic life with long lasting effects.

Persistence and degradability Not available

Behavior in environmental systems:

Bioaccumulative potential Not known

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Toxic for fish

Additional ecological information:

General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

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

UN-Number

DOT, ADR, IMDG, IATA

UN2928

UN proper shipping name

DOT

Toxic solids, corrosive, organic, n.o.s. (alpha-toluenesulphonyl fluoride)

ADR

2928 Toxic solids, corrosive, organic, n.o.s. (alpha-toluenesulphonyl fluoride), ENVIRONMENTALLY HAZARDOUS TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (alpha-toluenesulphonyl fluoride), MARINE POLLUTANT

IMDG

IATA

TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (alpha-toluenesulphonyl fluoride)

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Trade name: *Protease Inhibitor Cocktail*

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Transport hazard class(es)**DOT**

Class 6.1 Toxic substances
Label 6.1, 8

ADR

Class 6.1 (TC2) Toxic substances
Label 6.1+8

IMDG

Class 6.1 Toxic substances
Label 6.1/8

IATA

Class 6.1 Toxic substances
Label 6.1 (8)

Packing group

DOT, ADR, IMDG, IATA II

Environmental hazards:

Product contains environmentally hazardous substances: 1,10-phenanthroline

Marine pollutant:

Yes
 Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

Special precautions for user

Warning: Toxic substances

Danger code (Kemler):

68

EMS Number:

F-A,S-B

Stowage Category

B

Stowage Code

SW2 Clear of living quarters.

**Transport in bulk according to Annex II of
 MARPOL73/78 and the IBC Code**

Not applicable.

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Trade name: **Protease Inhibitor Cocktail**

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Transport/Additional information:**ADR****Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

IMDG**Limited quantities (LQ)**

500 g

Excepted quantities (EQ)

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

UN "Model Regulation":UN 2928 TOXIC SOLIDS, CORROSIVE, ORGANIC, N.O.S.
(ALPHA-TOLUENESULPHONYL FLUORIDE), 6.1 (8), II,
ENVIRONMENTALLY HAZARDOUS**15 Regulatory information**

Safety, health and environmental regulations/legislation specific for the substance or mixture
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):

329-98-6 alpha-toluenesulphonyl fluoride

1670-14-0 benzamidinium chloride

66-71-7 1,10-phenanthroline

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.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

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

None of the ingredients are listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: Protease Inhibitor Cocktail

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Signal word *Danger*

Hazard-determining components of labeling:

alpha-toluenesulphonyl fluoride

1,10-phenanthroline

Hazard statements

Toxic if swallowed.

Causes severe skin burns and eye damage.

Precautionary statements

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Do not breathe dusts or mists.

Wear eye protection / face protection.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Water hazard class: *Water hazard class 3 (Self-assessment): extremely hazardous for water.*

Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

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 SDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph:(608)274-4330

Date of preparation / last revision *07/04/2016 / -*

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

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OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

*** Data compared to the previous version altered.**

US