

Kit components

Product CellTiter 96® Non-Radioactive Cell Pro. Assay
Product code G4001

Substance number	Description	Amount	Symbols
G410	Solubilization/Stop Solution	1	T

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

1 Identification**Product identifier****Trade name:** Solubilization/Stop Solution**Article number:** G410**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**

GHS08 Health hazard

Repr. 1 H360 May damage fertility or the unborn child.

STOT SE 2 H371 May cause damage to organs.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Flam. Liq. 4 H227 Combustible liquid.

Label elements**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms** GHS05, GHS08**Signal word** Danger

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 1)

Hazard-determining components of labeling:

N,N-dimethylformamide
sodium dodecyl sulphate
acetic acid

Hazard statements

Combustible liquid.
Causes skin irritation.
Causes serious eye damage.
May damage fertility or the unborn child.
May cause damage to organs.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves / eye protection / face protection.
Keep away from flames and hot surfaces. – No smoking.
IF ON SKIN: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Take off contaminated clothing and wash it before reuse.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 2
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *1
Fire = 2
Reactivity = 0

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

Irritant
Combustible
Reproductive Hazard

Primary route(s) of entry:

Dermal
Inhalation
Oral

Target Organ(s):

May cause Liver damage (Hepatotoxin)
May affect Reproductive System (Mutagen, Teratogen)
May cause Kidney damage (Nephrotoxin)
May affect Vascular System

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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 2)

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:

68-12-2	N,N-dimethylformamide	25-50%
151-21-3	sodium dodecyl sulphate	15-20%
64-19-7	acetic acid	<2.50%

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

4 First-aid measures

Description of 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.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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

Seek medical treatment 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: If the patient feels unwell or is concerned, obtain medical advice.

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: Use fire fighting measures that suit the environment.

Special hazards arising from the substance or mixture None known

Advice for firefighters

No special advice

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

Protective equipment: Mouth respiratory protective device.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 3)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Remove persons from danger area.

Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

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

Methods and material for containment and cleaning up:

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

Dispose contaminated material as waste according to Section 13.

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

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about protection against explosions and fires: Keep respiratory protective device available.

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 following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

68-12-2 N,N-dimethylformamide

PEL	Long-term value: 30 mg/m ³ , 10 ppm Skin
-----	--

REL	Long-term value: 30 mg/m ³ , 10 ppm Skin
-----	--

TLV	Long-term value: 30 mg/m ³ , 10 ppm Skin; BEI
-----	---

64-19-7 acetic acid

PEL	Long-term value: 25 mg/m ³ , 10 ppm
-----	--

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 4)

REL	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm

Ingredients with biological limit values:

68-12-2 N,N-dimethylformamide

BEI	15 mg/L Medium: urine Time: end of shift Parameter: N-Methylformamide
	40 mg/L Medium: urine Time: prior to last shift of workweek Parameter: N-Acetyl-S-(N-methylcarbamoyl) cysteine (semi-quantitative)

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.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

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

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:

Safety glasses

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

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 5)

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

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

pH-value at 20 °C (68 °F): 4.7

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	> 60 °C (> 140 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature:	440 °C (824 °F)
Decomposition temperature:	Not determined.

Auto igniting: Product is not selfigniting.

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

Explosion limits:

Lower:	2.2 Vol %
Upper:	16.0 Vol %
Vapor pressure at 20 °C (68 °F):	3.5 hPa (3 mm Hg)

Density at 20 °C (68 °F): 0.9282 g/cm³ (7.746 lbs/gal)

Relative density Not determined.

Vapor density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

Organic solvents: 42.0 %

Water: 42.0 %

VOC content: 2.0 %

Solids content: 16.0 %

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: Oxidizing agents

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 6)

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:

68-12-2 N,N-dimethylformamide

Oral	LD50	7600 mg/kg (Rat)
Dermal	LD50	5000 mg/kg (Rabbit)
Inhalative	LC50/4 h	9400 mg/l (Mouse)

151-21-3 sodium dodecyl sulphate

Oral	LD50	1288 mg/kg (Rat)
Irritation of skin	acute	50 mg/24H (Rabbit) Severe

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

Carcinogenic categories

IARC (International Agency for Research on Cancer)

68-12-2 N,N-dimethylformamide	3
-------------------------------	---

NTP (National Toxicology Program)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

Toxicity

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Mobility in soil: No further relevant information available.

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes:

Water hazard class 2 (Self-assessment): hazardous for water

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

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

Results of PBT and vPvB assessment

PBT: Not applicable.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 7)

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.

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

* 14 Transport information

UN-Number	Not hazardous for transportation
DOT, ADR, ADN, IMDG, IATA	Void
UN proper shipping name	None
DOT, ADR, ADN, IMDG, IATA	Void
Transport hazard class(es)	None
DOT, ADR, ADN, IMDG, IATA	
Class	Void
Packing group	None
DOT, ADR, IMDG, IATA	Void
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	Void

* 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):

68-12-2 | N,N-dimethylformamide

TSCA (Toxic Substances Control Act):

All ingredients are listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 8)

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)

68-12-2 | N,N-dimethylformamide

A4

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).**Signal word** Danger**Hazard-determining components of labeling:**

N,N-dimethylformamide
sodium dodecyl sulphate
acetic acid

Hazard statements

Combustible liquid.
Causes skin irritation.
Causes serious eye damage.
May damage fertility or the unborn child.
May cause damage to organs.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves / eye protection / face protection.
Keep away from flames and hot surfaces. – No smoking.
IF ON SKIN: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a POISON CENTER/doctor.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO₂, powder or water spray.
Take off contaminated clothing and wash it before reuse.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 08/30/2016

Trade name: Solubilization/Stop Solution

(Contd. of page 9)

National regulations:

Water hazard class: Water hazard class 2 (Self-assessment): 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 11/09/2016 / -

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)

VOC: Volatile Organic Compounds (USA, EU)

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

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 4: Flammable liquids – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Repr. 1: Reproductive toxicity – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

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