

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

1 Identification of substance

Trade name: Binding Solution

Article number: A240

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:

CHEMTREC 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:

50-01-1	guanidinium chloride	25-50%
67-63-0	propan-2-ol	25-50%

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

3 Hazards identification

Hazard description:



Xn Harmful
F Highly flammable

Information pertaining to particular dangers for man and environment:

Has a narcotizing effect.

Highly flammable.

Harmful if swallowed.

Irritating to eyes and skin.

Vapours may cause drowsiness and dizziness.

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.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 1)

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 3

Reactivity = 0

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

Toxic

Irritant

Flammable

Primary route(s) of entry:

Dermal

Inhalation

Oral

Target Organ(s):

May affect Nervous system (Neurotoxin)

May cause Kidney damage (Nephrotoxin)

May affect Bones

Additional information: Keep away from sources of ignition.

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.

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

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact:

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

After swallowing: Immediately call a doctor.

5 Fire fighting measures

Suitable extinguishing agents:

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

6 Accidental release measures

Person-related safety precautions: Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Prevent seepage into sewage system, workpits and cellars.

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.

USA

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 2)

7 Handling and storage

Handling:

Information for safe handling:

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Storage:

Requirements to be met by storerooms and receptacles: Store in a cool location.

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

Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

8 Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

67-63-0 propan-2-ol

PEL	980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm
BEI	

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.

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

USA

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 3)

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: 82°C (180°F)

Flash point: ≤ 21°C (≤ 70°F)

Ignition temperature: 425°C (797°F)

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
 Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

Explosion limits:

Lower: 2.0 Vol %
Upper: 12.0 Vol %

Vapor pressure at 20°C (68°F): 43 hPa (32 mm Hg)

Density at 20°C (68°F): 1.07867 g/cm³

Solubility in / Miscibility with

Water: Fully miscible.

pH-value at 20°C (68°F): 6.8

Solvent content:

Organic solvents: 39.0 %
Water: 12.9 %
VOC content: 39.0 %

10 Stability and reactivity

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

Dangerous reactions Reacts with strong acids and oxidizing agents.

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide
Nitrogen oxides

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

50-01-1 guanidinium chloride

Oral	LD50	475 mg/kg (Rat)
Irritation of eyes	acute	500 mg (Rabbit)
		Severe Irritation

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 4)

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

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.*

13 Disposal considerations

Product:**Recommendation:***Must not be disposed of together with household garbage. Do not allow product to reach sewage system.***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:****Hazard class:**

3

Identification number:

UN1219

Packing group:

II

Proper shipping name (technical name): ISOPROPANOL (ISOPROPYL ALCOHOL), solution**Label**

3

Land transport ADR/RID (cross-border):**ADR/RID class:**

3 (F1) Flammable liquids

Danger code (Kemler):

33

UN-Number:

1219

Packaging group:

II

Label:

3

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 5)

Description of goods: 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), solution

Maritime transport IMDG:



IMDG Class: 3
UN Number: 1219
Label: 3
Packaging group: II
EMS Number: F-E,S-D
Marine pollutant: No
Proper shipping name: ISOPROPANOL (ISOPROPYL ALCOHOL), solution

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
UN/ID Number: 1219
Label: 3
Packaging group: II
Proper shipping name: ISOPROPANOL (ISOPROPYL ALCOHOL), solution

15 Regulations

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

67-63-0 | propan-2-ol

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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.

Cancerogenity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

(Contd. on page 7)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 6)

IARC (International Agency for Research on Cancer)

67-63-0 | propan-2-ol

3

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

67-63-0 | propan-2-ol

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:

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

Hazard symbols:

Xn Harmful

F Highly flammable

Hazard-determining components of labelling:

guanidinium chloride

Risk phrases:

Highly flammable.

Harmful if swallowed.

Irritating to eyes and skin.

Vapours may cause drowsiness and dizziness.

Safety phrases:

Keep container tightly closed and in a well-ventilated place.

Keep away from sources of ignition - No smoking.

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.

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

National regulations:

Class	Share in %
Water	12.9
NK	39.0

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:

(Contd. on page 8)

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Binding Solution

(Contd. of page 7)

*Promega Corporation
Environmental Health and Safety Department
2800 Woods Hollow Road
Madison, WI
Ph: (608)274-4330
* Data compared to the previous version altered.*

USA