

## Safety Data Sheet

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)  
Classification according to Regulation (EC) No. 1272/2008 [CLP]

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

#### Product identifier

<b>Product code</b>	F8540G6
<b>Product name</b>	Binding Solution Concentrate
<b>Unique Formula Identifier (UFI)</b>	Not Applicable
<b>Chemical Name</b>	Not Applicable
<b>REACH registration number</b>	No registration number is given yet for this substance / substances in this mixture since the annual import quantity is less than one tonnage per annum or the transition period for its registration according to Article 23 of REACH has not yet expired.

#### Relevant identified uses of the substance or mixture and uses advised against

<b>Relevant identified uses</b>	For research use only. Not for use in diagnostic procedures
<b>Use Description Code</b>	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen), PROC15 - Use as laboratory reagent, PC21 - Laboratory chemicals, SU24 - Scientific research and development
<b>Uses advised against</b>	Not for consumer use.

#### Details of the supplier of the safety data sheet

##### Manufacturer / Supplier

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#### Emergency telephone number

Revision number 4  
Product code F8540G6

Revision date 20-Apr-2021  
Product name Binding Solution Concentrate

**24 hour Emergency Response for Hazardous Materials** Within the USA + Canada: 1-800-424-9300 and  
**[or Dangerous Goods] Incident. Spill, Leak, Fire,** 1-703-527-3887  
**Exposure, or Accident. Call CHEMTREC** Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

CHEMTREC Ireland (Dublin) +(353)-19014670 (Greeting Language: English and Irish)  
CHEMTREC UK (London) +(44)-870-8200418 (Greeting Language: English)

SECTION 2: Hazards identification

**Classification of the substance or mixture**

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

**Physical hazards**

Not classified

**Health hazards**

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 1C

**Environmental hazards**

Chronic aquatic hazard	Category 3
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**Label elements**

**Labelling according to Regulation (EC) No 1272/2008 [CLP]**

**Hazard pictograms**



**Signal Word**

Danger

**Hazard Statements**

H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements**

**Prevention**

P273 - Avoid release to the environment  
P264 - Wash hands thoroughly after handling  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P270 - Do not eat, drink or smoke when using this product

Revision number 4  
Product code F8540G6

Revision date 20-Apr-2021  
Product name Binding Solution Concentrate

**Response**

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P330 - Rinse mouth

**Storage**

Not Applicable

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other hazards**

Not Applicable

SECTION 3: Composition/information on ingredients
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**Mixtures**

We recommend handling all chemicals with caution.

Chemical Name	CAS No	EINECS-No.	Weight-%	REACH registration number	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-Mercaptoethanol	60-24-2	200-464-6	0.1-1	-	Acute Tox. 3 - H301 Acute Tox. 2 - H310 Acute Tox. 3 - H331 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317A Repr. 2- H361 STOT RE 2 - H373 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411
Thiocyanic acid, compound with guanidine (1:1)	593-84-0	209-812-1	41-54	01-2120735072-65-xxxx	Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Corr. 1C - H314 Eye Damage 1 - H318 Aquatic Chronic 3 - H412

Chemical Name	Specific concentration limit (SCL)	M-Factor	Acute Toxicity Estimate
2-Mercaptoethanol	-	-	-
Thiocyanic acid, compound with guanidine (1:1)	-	-	-

Revision number 4  
Product code F8540G6

Revision date 20-Apr-2021  
Product name Binding Solution Concentrate

## SECTION 4: First aid measures

### Description of first aid measures

<b>Skin contact</b>	Rinse skin with water. Immediate medical attention is not required.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Ingestion</b>	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
<b>Inhalation</b>	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
<b>Notes to Physician</b>	Treat symptomatically.

### Most important symptoms and effects, both acute and delayed

H314 - Causes severe skin burns and eye damage H302 - Harmful if swallowed H412 - Harmful to aquatic life with long lasting effects

### Indication of any immediate medical attention and special treatment needed

Wear protective gloves/protective clothing and eye/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 5: Firefighting measures

### Extinguishing media

**Suitable extinguishing media**  
**Unsuitable extinguishing media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
No information available.

### Special hazards arising from the substance or mixture

No data

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### **Precautions for safe handling**

Use personal protective equipment as required. No special handling advices are necessary.

### **Conditions for safe storage, including any incompatibilities**

Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.

### **Storage Conditions**

Store at 2 °C to 8 °C.

### **Specific end use(s)**

For research use only. Not for use in diagnostic procedures.

SECTION 8: Exposure controls/personal protection

**Control parameters**

Chemical Name	EU OEL (TWA)	EU OEL (STEL)	EU Skin Notation
2-Mercaptoethanol 60-24-2	None	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

Chemical Name	Austria	Belgium (TWA)	Czech Republic
2-Mercaptoethanol 60-24-2	None	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

Chemical Name	Denmark (TWA)	Finland OEL (TWA)	France OEL (VME)
2-Mercaptoethanol 60-24-2	None	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

Chemical Name	Germany OEL (TWA)	Ireland (TWA)	Italy OEL (TWA)
2-Mercaptoethanol 60-24-2	None	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

Chemical Name	Lithuania OEL (TWA)	Netherlands OEL (MAC)	Norway
2-Mercaptoethanol 60-24-2	1 mg/m <sup>3</sup>	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

Chemical Name	Poland	Portugal	Spain OEL (TWA)
2-Mercaptoethanol 60-24-2	None	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

Chemical Name	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Switzerland	United Kingdom
2-Mercaptoethanol 60-24-2	None	None	None
Thiocyanic acid, compound with guanidine (1:1) 593-84-0	None	None	None

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

**Exposure controls**

**Personal protection equipment**

Revision number 4  
Product code F8540G6

Revision date 20-Apr-2021  
Product name Binding Solution Concentrate

<b>Respiratory protection</b>	In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.
<b>Hand protection</b>	Wear suitable gloves Glove material: Compatible chemical-resistant gloves.
<b>Eye protection</b>	Tight sealing safety goggles.
<b>Skin and Body Protection</b>	Wear suitable protective clothing.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Environmental exposure controls</b>	No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	liquid	
<b>Colour</b>	No data	
<b>Odour</b>	No data	
<b>Molecular Weight</b>	No data	
<b>Melting point / melting range</b>	°C No data	°F No data
<b>Boiling point / boiling range</b>	°C No data	°F No data
<b>Flammability (solid, gas)</b>	No data	
<b>Lower explosion limit</b>	No data	
<b>Upper explosion limit</b>	No data	
<b>Flash point</b>	°C No data	°F No data
<b>Autoignition Temperature</b>	°C No data	°F No data
<b>Decomposition temperature</b>	°C No data	°F No data
<b>Evaporation rate</b>	No data	
<b>Viscosity</b>	No data	
<b>Solubility</b>	No data	
<b>Partition coefficient: n-octanol/water</b>	No data	
<b>Vapour Pressure</b>	No data	
<b>Specific gravity</b>	No data	
<b>Relative density</b>	No data	
<b>Vapour density</b>	No data	
<b>Explosive properties</b>	No data	
<b>Oxidising properties</b>	No data	
<b>Particle characteristics</b>	No data	

### Other information

#### Information with regards to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported.
<b>Conditions to avoid</b>	No information available.
<b>Incompatible materials</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	No data available.

## SECTION 11: Toxicological information

### Information on hazard classes as defined in Regulation (EC) No 1272/2008

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2-Mercaptoethanol	244 mg/kg Oral LD50	112 - 224 mg/kg(Rabbit)	250 ppm/8h
Thiocyanic acid, compound with guanidine (1:1)	593 mg/kg	No data available	No data available

### Principal Routes of Exposure

<b>Skin corrosion/irritation</b>	Causes severe burns
<b>Serious eye damage/irritation</b>	Causes serious eye damage
<b>Respiratory or skin sensitisation</b>	Data are conclusive but insufficient for classification
<b>Specific target organ toxicity (STOT) – single exposure</b>	Data are conclusive but insufficient for classification
<b>Specific target organ toxicity (STOT) – repeated exposure</b>	Data are conclusive but insufficient for classification
<b>Carcinogenicity</b>	Data are conclusive but insufficient for classification
<b>Germ cell mutagenicity</b>	Data are conclusive but insufficient for classification
<b>Reproductive Toxicity</b>	Data are conclusive but insufficient for classification
<b>Aspiration Hazard</b>	Data are conclusive but insufficient for classification

### Information on other hazards

#### Endocrine disrupting properties

No information available

#### Other information

No information available



## SECTION 12: Ecological information

**Toxicity**

Hazardous to the Aquatic Environment.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
2-Mercaptoethanol	Desmodesmus subspicatus EC50=12 mg/L (72 h)	Daphnia magna EC50=1.52 mg/L (48 h)	No data available	No data available	logPow-0.056
Thiocyanic acid, compound with guanidine (1:1)	No data available	No data available	No data available	No data available	No data available

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

**Mobility in soil** No information available.

**Results of PBT and vPvB assessment**

No information available.

**Endocrine disrupting properties**

This product does not contain any known or suspected endocrine disruptors

**Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

**Waste treatment methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

## SECTION 14: Transport information

**IATA / ADR / DOT-US / IMDG**

Classified as dangerous in the meaning of transport regulations

<b>UN number or ID number</b>	UN1760
<b>UN proper shipping name</b>	Corrosive liquid, n.o.s. (Guanidine Thiocyanate)
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	III

Revision number 4  
Product code F8540G6

Revision date 20-Apr-2021  
Product name Binding Solution Concentrate

**Marine pollutant**

Yes

**Environmental hazards**

Not Applicable

**Special precautions for user**

Not Applicable

**Maritime transport in bulk according to IMO instruments**

Not Applicable.

## SECTION 15: Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture****Substances of Very High Concern**

None

**Substance subject to authorisation per REACH Annex XIV**

None

**Restricted substances under EC 1907/2006, Annex XVII**

None

**Regulation (EC) No 649/2012 (Rotterdam Convention - export/import of dangerous chemicals)**

None

**Regulation (EU) No 2019/1021 (Stockholm Convention – persistent organic pollutants)**

None

**EU - Substances Depleting the Ozone layer (1005/2009)**

None

**German Water hazard classes (Wassergefährdungsklassen)**

Chemical Name	Weight-%	Water hazard class (WGK)
2-Mercaptoethanol	0.1-1	hazard class 3 - highly hazardous to water
Thiocyanic acid, compound with guanidine (1:1)	41-54	hazard class 2 - obviously hazardous to water

**Other International Inventories**

Chemical Name	EINECS (European)	ELINCS (European)	ENCS (Japan)	PICCS (Philippines)
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Revision number 4  
 Product code F8540G6

Revision date 20-Apr-2021  
 Product name Binding Solution Concentrate

	Union)	List of Notified Chemical Substances)		
2-Mercaptoethanol	Listed	-	Listed	Listed
Thiocyanic acid, compound with guanidine (1:1)	Listed	-	Listed	Listed

Chemical Name	AICS (Australia)	South Korea (KECL)	Canada (DSL)	NDSL
2-Mercaptoethanol	Listed	Listed	Listed	-
Thiocyanic acid, compound with guanidine (1:1)	Listed	-	Listed	-

### Chemical safety assessment

No Chemical safety assessment has been carried out.

## SECTION 16: Other information

**Reason for revision** Update according to Commission Regulation EU No. 2020/878  
**Revision number** 4  
**Revision date** 20-Apr-2021

### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Acute oral toxicity	Category 4	Skin corrosion/irritation	Category 1C
Chronic aquatic hazard	Category 3		

### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labour  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**Revision number** 4  
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