

SAFETY DATA SHEET

Boron Reagent

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

1.1. Product identifier

Trade name or designation of the mixture Boron Reagent

Product application

GE Analytical Instruments part number	Product name
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ASM 71280-XX, ASM 71220	-
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GE Analytical Instruments kit number

Date of first issue 02/02/2012

Version number 2.1

Revision date 25/05/2016

Supersedes date 09/02/2015

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Analytical reagent.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

GE Analytical Instruments Inc

6060 Spine Road

Boulder, CO 80301

T 303-444-2009

e-mail : emea.productstewardship@ge.com

GE Water & Process Technologies Hungary Kft.

2800 Tatabánya, Vigadó utca 2011 hrsz.

Hungary

Tel: +36 34 512-520

e-mail : oro.ehs@ge.com

1.4. Emergency telephone number

1-800-535-5053 INFOTRAC (North America)

Outside of N.A., call collect: 1-352-323-3500

GE (800) 877-1940

National Poisons Information Centre

NHS Direct on 0845 46 47

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: D-Glucitol, Propan-2-ol (Isopropyl alcohol), Water, thymol

Hazard pictograms None.

Signal word None.

Hazard statements The product does not need to be labelled in accordance with EC directives or respective national laws.

Precautionary statements

Prevention Not available.

Response Not available.

Storage Not available.

Disposal Not available.

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Supplemental label information None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

Mixtures

Chemical description Aqueous solution of D-glucitol

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Water	68	7732-18-5 231-791-2	-	-	
Classification:	-				
D-Glucitol	32	50-70-4 200-061-5	-	-	
Classification:	-				
Propan-2-ol (Isopropyl alcohol)	< 0,2	67-63-0 200-661-7	01-2119457558-25	603-117-00-0	
Classification:	Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336				
thymol	< 0,1	89-83-8 201-944-8	-	604-032-00-1	
Classification:	Acute Tox. 4;H302, Skin Corr. 1B;H314, Eye Dam. 1;H318, Aquatic Chronic 2;H411				

The classification of the above substance(s) is given, including the hazard class, category code and hazard statements which are assigned in accordance with their physicochemical, health and environmental hazards. Please refer to section 16 where the full text of each relevant H-statement is listed.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move to fresh air.
Skin contact	Wash off immediately with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eye(s) with plenty of water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do not give anything to eat or drink. Do not induce vomiting. Call a physician or poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed Not applicable.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media This product does not represent a fire hazard since it contains a high amount of water. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media None.

5.2. Special hazards arising from the substance or mixture Oxides of carbon evolved in fire.

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5.3. Advice for firefighters

Special protective equipment for firefighters	Self contained breathing apparatus. (CEN : EN 137) Protective clothing (CEN : EN 469) Protective gloves (CEN : EN 659) Helmet (CEN : EN 443)
Special fire fighting procedures	Not applicable.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No special protective equipment required.
For emergency responders	Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

No special environmental precautions required.

6.3. Methods and material for containment and cleaning up

Absorb spillage with non-combustible, absorbent material.
 Remove small spills with plenty of water.

6.4. Reference to other sections

Please refer also to section no. 8 'Exposure controls' for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Normal chemical handling.
7.2. Conditions for safe storage, including any incompatibilities	Reasonable and safe chemical storage. Protect from freezing.
7.3. Specific end use(s)	Only for professional and industrial users

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)	STEL	1250 mg/m ³
	TWA	500 ppm
		999 mg/m ³
		400 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Not available.

Derived no-effect level (DNEL)

Components	Type	Route	Value	Form
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)	Professional	Dermal	888 mg/kg/day	Long term Systemic effects
		Inhalation	500 mg/m ³	Long term Systemic effects
	Workers	Dermal	888 mg/kg/day	Long term - Systemic effects
		Inhalation	500 mg/m ³	Long term - Systemic effects

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)	Aqua (freshwater)	Water	140,9 mg/l	
	Aqua (marine water)	Water	140,9 mg/l	
	Intermittent release	Not applicable	140,9 mg/l	
	Sediment (freshwater)	Soil	552 mg/kg/day	
	Sediment (marine water)	Soil	552 mg/kg/day	

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Components	Type	Route	Value	Form
	Soil	Soil	28 mg/kg/day	
	STP	Not applicable	2251 mg/l	

8.2. Exposure controls

Appropriate engineering controls No particular ventilation requirements.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety goggles.
 CEN : EN 166

Skin protection

- **Hand protection** Protective gloves (Plastic, impervious) (Protection against unintentional short-term contact)
 CEN : EN 420

- **Other** No special protective equipment required.

Respiratory protection Not required.

Thermal hazards Not available.

Environmental exposure controls Not applicable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Colour Colorless

Physical state Liquid

Odour Strong

Odour threshold Not available.

pH (concentrated product) 6

Melting point/freezing point < 0 °C

Initial boiling point and boiling range > 100 °C

Flash point > 100 °C Pensky Martens (CC)

Evaporation rate < 1 (Water = 1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 18 mm Hg at 21°C

Vapour density < 1 (Air = 1)

Relative density Not available.

Solubility

Solubility (water) Completely soluble

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not applicable.

Decomposition temperature Not available.

Viscosity Not applicable.

Explosive properties Not available.

Oxidising properties Not available.

9.2. Other information

Pour point < 0 °C

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VOC (Weight %) None

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Not applicable.
10.4. Conditions to avoid	Protect from freezing.
10.5. Incompatible materials	Avoid contact with strong oxidisers. Do not mix with alkaline material.
10.6. Hazardous decomposition products	Oxides of carbon evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product	Test results
Boron Reagent (Mixture)	Acute Dermal LD50 Rabbit: > 5000 mg/kg (Calculated according to GHS additivity formula) Acute Oral LD50 Rat: > 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Test results
Propan-2-ol (Isopropyl alcohol) (67-63-0)	Acute Dermal LD50 Rabbit: > 5000 mg/kg Acute Inhalation LC50 Rat: 72,6 mg/l 4 hour Acute Oral LD50 Rat: 5045 mg/kg

Acute toxicity	Not classified.
Skin corrosion/irritation	Not classified.
Serious eye damage/irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitisation	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Carcinogenicity	Not classified.
Germ cell mutagenicity	Not classified.
Reproductive toxicity	Not classified.

Information on likely routes of exposure

Ingestion	May cause irritation of the gastrointestinal tract.
Inhalation	Inhalation of dusts may cause respiratory irritation.
Skin contact	May be irritating to the skin.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms	Not available.
Aspiration hazard	Not classified.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	No toxicity data noted for the ingredient(s).
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Material name: Boron Reagent

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12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Not available.

Partition coefficient

n-octanol/water (log Kow)

D-Glucitol	-2,2
Propan-2-ol (Isopropyl alcohol)	0,05
thymol	3,3

Bioconcentration factor (BCF)

Not available.

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contaminated packaging

According to Controlled Waste Regulations.

EWC (European Waste Code) recommendation : 15 01 02

15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified.

15 01 Packaging (including separately collected municipal packaging waste).

15 01 02 Plastic packaging.

Depending on the origin and state of the waste, other EWC numbers may be applicable too.

Disposal methods/information

According to Controlled Waste Regulations.

EWC (European Waste Code) recommendation : 16 03 06

16 Wastes not otherwise specified in the list.

16 03 Off-specification batches and unused products.

16 03 06 Organic wastes

Depending on the origin and state of the waste, other EWC numbers may be applicable too.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

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Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 143/2011 Annex XIV Substances Subject to Authorisation

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not regulated.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

thymol (CAS 89-83-8)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

thymol (CAS 89-83-8)

Directive 94/33/EC on the protection of young people at work

thymol (CAS 89-83-8)

National regulations Not available.

15.2. Chemical safety assessment Not available.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

SECTION 16: Other information

List of abbreviations

EC-No: European Commission Number
COD: Chemical Oxygen Demand
IATA: International Air Transport Association
CAS: Chemical Abstract Service.
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
CEN: European Committee for Standardization (Comité Européen de Normalisation).
TWA: Time Weighted Average.
STEL: Short-term Exposure Limit.
LD50: Lethal Dose 50%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.



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NOEL: No observed effect level.
BOD: Biochemical oxygen demand.
TOC: Total Organic Carbon.
ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route).
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).
IMDG Code: International Maritime Dangerous Goods Code.
RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).

References

Safety data sheets of raw materials.

Information on evaluation method leading to the classification of mixture

The physical, health and environmental hazards of this mixture are assessed by applying the classification criteria for each hazard class or differentiation in Parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008 (CLP).

Full text of any H-statements not written out in full under Sections 2 to 15

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Revision information

SECTION 3: Composition/information on ingredients: Composition comments
SECTION 11: Toxicological information: Aspiration hazard
SECTION 11: Toxicological information: Serious eye damage/irritation
SECTION 11: Toxicological information: Ingestion
SECTION 11: Toxicological information: Inhalation
SECTION 11: Toxicological information: Skin contact
SECTION 16: Other information: Based on EC Directive / Regulations
SECTION 16: Other information: Further information
SECTION 16: Other information: List of abbreviations
GHS: Classification

Training information

Provide training on safe handling while considering the type of application and exposure scenarios.

Based on EC Directive / Regulations

(EC) No 1907/2006 (REACH)
(EU) 2015/830
(EC) No 1272/2008
(EU) No 1357/2014

Further information

Correction in Section: 1,2,3,11,15,16