SAFETY DATA SHEET

Boron Reagent

1. Identification

Product identifier
Boron Reagent

Other means of identification
None.

Product application

GE Analytical Instruments part number
ASM 71280-XX, ASM 71220

Product name
-

GE Analytical Instruments kit number

Recommended use
Analytical reagent.

Recommended restrictions
None known.

Company/undertaking identification

GE Analytical Instruments Inc
6060 Spine Road
Boulder, CO 80301
T 303-444-2009

Emergency telephone

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

Outside of N.A., call collect: 1-352-323-3500
GE (800) 877-1940

2. Hazard(s) identification

Physical hazards
Not classified.

Health hazards
Not classified.

OSHA defined hazards
Not classified.

Label elements

Hazard symbol
None.

Signal word
None.

Hazard statement
The mixture does not meet the criteria for classification.

Precautionary statement

Prevention
Observe good industrial hygiene practices.

Response
Wash hands after handling.

Storage
Store away from incompatible materials.

Disposal
Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
None.

3. Composition/information on ingredients

Mixtures
Chemical name | Common name and synonyms | CAS number | %
--- | --- | --- | ---
Water | 7732-18-5 | 68
D-Glucitol | 50-70-4 | 32
Propan-2-ol (Isopropyl alcohol) | 67-63-0 | < 0.2
thymol | 89-83-8 | < 0.1

Composition comments
Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

4. 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 with water.
Do not give anything to eat or drink.
Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed
Not available.

5. Fire-fighting measures
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.

Specific hazards arising from the chemical
Not applicable.

Special protective equipment and precautions for firefighters
Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental release measures
Personal precautions, protective equipment and emergency procedures
See Section 8 of the SDS for Personal Protective Equipment.

Methods and materials for containment and cleaning up
Absorb spillage with non-combustible, absorbent material.
Remove small spills with plenty of water.

Environmental precautions
No special environmental precautions required.

7. Handling and storage
Precautions for safe handling
Normal chemical handling.

Conditions for safe storage, including any incompatibilities
Reasonable and safe chemical storage. Protect from freezing.

8. Exposure controls/personal protection
Occupational exposure limits
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)</td>
<td>PEL</td>
<td>980 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>400 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)</td>
<td>STEL</td>
<td>400 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
</tr>
</tbody>
</table>
US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol (Isopropyl alcohol (CAS 67-63-0))</td>
<td>STEL</td>
<td>1225 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>980 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>400 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

<table>
<thead>
<tr>
<th>ACGIH Biological Exposure Indices</th>
<th>Components</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol (isopropyl alcohol (CAS 67-63-0))</td>
<td>40 mg/l</td>
<td>Acetone</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

Appropriate engineering controls
Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection
Safety glasses.

Skin protection
Hand protection
Chemical resistant gloves.

Other
No special protective equipment required.

Respiratory protection
Not required.

Thermal hazards
Not available.

9. Physical and chemical properties

Appearance

Color
Colorless

Physical state
Liquid

Odor
Strong

Odor threshold
Not available.

pH (concentrated product)
6

Melting point/freezing point
< 32 °F (< 0 °C)

Initial boiling point and boiling range
> 212 °F (> 100 °C)

Flash point
> 212 °F (> 100 °C) Pensky Martens (CC)

Evaporation rate
< 1 (Water = 1)

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)
Not available.

Flammability limit - upper (%)
Not available.

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.

Vapor pressure
18 mm Hg at 21°C

Vapor density
< 1 (Air = 1)

Relative density
Not available.

Solubility(ies)

Solubility (water)
Completely soluble

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

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

Viscosity
Not available.

Other information
Pour point
< 32 °F (< 0 °C)
10. Stability and reactivity

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Protect from freezing.

Incompatible materials
Avoid contact with strong oxidizers. Do not mix with alkaline material.

Hazardous decomposition products
Oxides of carbon evolved in fire.

11. Toxicological information

Information on likely routes of exposure
- Inhalation: None known.
- Skin contact: None known.
- Eye contact: None known.
- Ingestion: None known.

Symptoms related to the physical, chemical and toxicological characteristics
Not available.

Information on toxicological effects

Acute toxicity
Not classified.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron Reagent (CAS Mixture)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 5000 mg/kg, (Calculated according to GHS additivity formula)</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg, (Calculated according to GHS additivity formula)</td>
</tr>
<tr>
<td>Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>12800 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>72.6 mg/L, 4 Hour</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>5045 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Not classified.

Serious eye damage/eye irritation
Not classified.

Respiratory or skin sensitization

Respiratory sensitization
Not classified.

Skin sensitization
Not classified.

Germ cell mutagenicity
Not classified.

Carcinogenicity
Not classified.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Reproductive toxicity
Not classified.

Specific target organ toxicity - single exposure
Not classified.
Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not classified.

12. Ecological information
Ecotoxicity
No ecotoxicity data noted for the ingredient(s).

Bioaccumulative potential
Not available.

- Partition coefficient n-octanol / water (log Kow)
  - D-Glucitol: -2.2
  - Propan-2-ol (Isopropyl alcohol): 0.1
  - thymol: 3.3

Mobility in soil
Not available.

Other adverse effects
Not available.

Persistence and degradability
No data available

13. Disposal considerations
Disposal instructions
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations.
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information
DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory information
US federal regulations
All components of this product are included on or are in compliance with the U.S. TSCA regulations.

- TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
- CERCLA Hazardous Substance List (40 CFR 302.4)
  - Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0) Listed.
- SARA 304 Emergency release notification
Not regulated.
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

- Hazard categories
  - Immediate Hazard - No
  - Delayed Hazard - No
  - Fire Hazard - No
  - Pressure Hazard - No
  - Reactivity Hazard - No

- SARA 302 Extremely hazardous substance
  Not listed.

- SARA 311/312 Hazardous chemical
  No

- SARA 313 (TRI reporting)
  Not regulated.
Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act
(SDWA)
Not regulated.

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*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).

US state regulations

**US - Massachusetts RTK - Substance List**
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

**US - Pennsylvania RTK - Hazardous Substances**
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

**US - Rhode Island RTK**
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

**US, California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**
Not listed.

**US, New Jersey Worker and Community Right-to-Know Act**
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

**US, Pennsylvania Worker and Community Right-to-Know Law**
Propan-2-ol (Isopropyl alcohol) (CAS 67-63-0)

**US, California Proposition 65**

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**
No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**
No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**
No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**
No ingredient listed.

16. Other information, including date of preparation or last revision

Issue date: Mar-19-2015
Revision date: Apr-16-2015
Version #: 3.0

List of abbreviations

CAS: Chemical Abstract Service Registration Number
TWA: Time Weighted Average
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
LD50: Lethal Dose, 50%
LC50: Lethal Concentration, 50%
EC50: Effect Concentration, 50%
NOEL: No Observed Effect Level
COD: Chemical Oxygen Demand
BOD: Biochemical Oxygen Demand
TOC: Total Organic Carbon
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code

References: No data available
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by
This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).