



## Initial Check Verification Standard 1

### High-Purity Standards

Catalogue number: ICV-1 Solution B

Version No: 1.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Chemwatch Hazard Alert Code: 0

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S.GHS.USA.EN

## SECTION 1 IDENTIFICATION

### Product Identifier

Product name	Initial Check Verification Standard 1
Synonyms	ICV-1 Solution B
Other means of identification	ICV-1 Solution B

### Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.
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### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	High-Purity Standards
Address	PO Box 41727 SC 29423 United States
Telephone	843-767-7900
Fax	843-767-7906
Website	highpuritystandards.com
Email	Not Available

### Emergency phone number

Association / Organisation	INFOTRAC
Emergency telephone numbers	1-800-535-5053
Other emergency telephone numbers	1-352-323-3500

## SECTION 2 HAZARD(S) IDENTIFICATION

### Classification of the substance or mixture

Classification	Not Applicable
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### Label elements

Hazard pictogram(s)	Not Applicable
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SIGNAL WORD	NOT APPLICABLE
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### Hazard statement(s)

Not Applicable

### Hazard(s) not otherwise specified

Not Applicable

### Precautionary statement(s) Prevention

Not Applicable

### Precautionary statement(s) Response

Not Applicable

### Precautionary statement(s) Storage

Not Applicable

### Precautionary statement(s) Disposal

Continued...

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Not Applicable

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name
6834-92-0	0.03-0.01	<u>sodium metasilicate, anhydrous</u>
7664-93-9	0.02	<u>sulfuric acid</u>
7732-18-5	balance	<u>water</u>

### SECTION 4 FIRST-AID MEASURES

#### Description of first aid measures

<b>Eye Contact</b>	If this product comes in contact with eyes: <ul style="list-style-type: none"><li>▶ Wash out immediately with water.</li><li>▶ If irritation continues, seek medical attention.</li><li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul>
<b>Skin Contact</b>	If skin or hair contact occurs: <ul style="list-style-type: none"><li>▶ Flush skin and hair with running water (and soap if available).</li><li>▶ Seek medical attention in event of irritation.</li></ul>
<b>Inhalation</b>	<ul style="list-style-type: none"><li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li><li>▶ Other measures are usually unnecessary.</li></ul>
<b>Ingestion</b>	<ul style="list-style-type: none"><li>▶ Immediately give a glass of water.</li><li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li></ul>

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

See Section 11

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

Treat symptomatically.

### SECTION 5 FIRE-FIGHTING MEASURES

#### Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

#### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	None known.
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#### Special protective equipment and precautions for fire-fighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"><li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li></ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"><li>▶ Non combustible.</li></ul>

### SECTION 6 ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

See section 8

#### Environmental precautions

See section 12

#### Methods and material for containment and cleaning up

<b>Minor Spills</b>	<ul style="list-style-type: none"><li>▶ Clean up all spills immediately.</li></ul>
<b>Major Spills</b>	<ul style="list-style-type: none"><li>▶ Clear area of personnel and move upwind.</li></ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

### SECTION 7 HANDLING AND STORAGE

#### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"><li>▶ Limit all unnecessary personal contact.</li></ul>
<b>Other information</b>	

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

Continued...

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<b>Suitable container</b>	► Polyethylene or polypropylene container.
<b>Storage incompatibility</b>	Avoid contamination of water, foodstuffs, feed or seed. None known

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z1	sodium metasilicate, anhydrous	Silicates - Mica / Silicates - Soapstone / Silicates - Soapstone / Silicates - Talc / Silicates - Tremolite, asbestiform	0.1 mg/m3	Not Available	Not Available	See Table Z-3; less than 1% crystalline silica (respirable dust) / See Table Z-3; less than 1% crystalline silica, total dust / See Table Z-3; less than 1% crystalline silica, respirable dust / less than 1% crystalline silica; see 29 CFR 1910.1001; See Table Z-3; (containing asbestos); use asbestos limit; (STEL (Excursion limit) (as averaged over a sampling period of 30 minutes)) / less than 1% crystalline silica; See Table Z-3, (containing no asbestos), respirable dust / (as quartz), respirable dust; less than 1% crystalline silica; see 1910.1001; (STEL (Excursion limit) (as averaged over a sampling period of 30 minutes))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	sodium metasilicate, anhydrous	Silicates: Mica / Silicates: Soapstone / Silicates: Talc / Silicates: Tremolite, asbestiforms	0.1 f/cc / 20 mppcf	Not Available	Not Available	(less than 1% crystalline silica) / (containing asbestos) Use asbestos limit; (less than 1% crystalline silica) / (see 29 CFR 1910.1001); (less than 1% crystalline silica)
US OSHA Permissible Exposure Levels (PELs) - Table Z1	sulfuric acid	Sulfuric acid	1 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	sulfuric acid	Sulfuric acid	0.2 mg/m3	Not Available	Not Available	TLV® Basis: Pulm func
US NIOSH Recommended Exposure Limits (RELs)	sulfuric acid	Battery acid, Hydrogen sulfate, Oil of vitriol, Sulfuric acid (aqueous)	1 mg/m3	Not Available	Not Available	Not Available

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
sodium metasilicate, anhydrous	Sodium metasilicate pentahydrate	6.6 mg/m3	73 mg/m3	440 mg/m3
sodium metasilicate, anhydrous	Sodium silicate; (Sodium metasilicate)	3.8 mg/m3	42 mg/m3	250 mg/m3
sulfuric acid	Sulfuric acid	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
sodium metasilicate, anhydrous	Not Available	Not Available
sulfuric acid	80 mg/m3	15 mg/m3
water	Not Available	Not Available

## Exposure controls

<b>Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
<b>Personal protection</b>	
<b>Eye and face protection</b>	► Safety glasses with side shields ► Chemical goggles.
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	Wear general protective gloves, eg. light weight rubber gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	No special equipment needed when handling small quantities.
<b>Thermal hazards</b>	Not Available

## Respiratory protection

Type E-P Filter of sufficient capacity.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Initial Check Verification Standard 1

## Information on basic physical and chemical properties

Appearance	colorless		
Physical state	liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

## SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).
Ingestion	The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion".
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models).
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

Initial Check Verification Standard 1	TOXICITY	IRRITATION
	Not Available	Not Available
sodium metasilicate, anhydrous	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg <sup>[1]</sup>	Skin (human): 250 mg/24h SEVERE
	Oral (rat) LD50: >1000 mg/kg <sup>[2]</sup>	Skin (rabbit): 250 mg/24h SEVERE
sulfuric acid	TOXICITY	IRRITATION
	Oral (rat) LD50: 2140 mg/kgE <sup>[2]</sup>	Eye (rabbit): 1.38 mg SEVERE
		Eye (rabbit): 5 mg/30sec SEVERE
water	TOXICITY	IRRITATION
	Not Available	Not Available

## Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. \* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

## SODIUM METASILICATE, ANHYDROUS

The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Continued...

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<b>SULFURIC ACID</b>	<b>WARNING:</b> For inhalation exposure <u>ONLY</u> : This substance has been classified by the IARC as Group 1: <b>CARCINOGENIC TO HUMANS</b>
<b>WATER</b>	Occupational exposures to strong inorganic acid mists of sulfuric acid:
<b>SODIUM METASILICATE, ANHYDROUS &amp; SULFURIC ACID</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ends.

<b>Acute Toxicity</b>		<b>Carcinogenicity</b>	
<b>Skin Irritation/Corrosion</b>		<b>Reproductivity</b>	
<b>Serious Eye Damage/Irritation</b>		<b>STOT - Single Exposure</b>	
<b>Respiratory or Skin sensitisation</b>		<b>STOT - Repeated Exposure</b>	
<b>Mutagenicity</b>		<b>Aspiration Hazard</b>	

**Legend:** – Data available but does not fill the criteria for classification  
 – Data available to make classification  
 – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Initial Check Verification Standard 1	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
sodium metasilicate, anhydrous	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	180mg/L	1
	EC50	96	Crustacea	160mg/L	1
sulfuric acid	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	=8mg/L	1
	EC50	48	Crustacea	=42.5mg/L	1
	EC50	240	Algae or other aquatic plants	2.5000mg/L	4
water	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

**Legend:** Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
water	LOW	LOW

## Bioaccumulative potential

Ingredient	Bioaccumulation
water	LOW (LogKOW = -1.38)

## Mobility in soil

Ingredient	Mobility
water	LOW (KOC = 14.3)

## SECTION 13 DISPOSAL CONSIDERATIONS

## Waste treatment methods

<b>Product / Packaging disposal</b>	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. ▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b> ▶ Recycle wherever possible.
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## SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
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Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code  
Not Applicable

SECTION 15 REGULATORY INFORMATION

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

SODIUM METASILICATE, ANHYDROUS(6834-92-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Idaho - Limits for Air Contaminants	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	US OSHA Permissible Exposure Levels (PELs) - Table Z3
US - Washington Permissible exposure limits of air contaminants	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

SULFURIC ACID(7664-93-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft	US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
US - Alaska Limits for Air Contaminants	US - Washington Permissible exposure limits of air contaminants
US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)	US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)	US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US - California Permissible Exposure Limits for Chemical Contaminants	US ACGIH Threshold Limit Values (TLV)
US - Hawaii Air Contaminant Limits	US ACGIH Threshold Limit Values (TLV) - Carcinogens
US - Idaho - Limits for Air Contaminants	US CWA (Clean Water Act) - List of Hazardous Substances
US - Massachusetts - Right To Know Listed Chemicals	US Drug Enforcement Administration (DEA) List I and II Regulated Chemicals
US - Michigan Exposure Limits for Air Contaminants	US EPCRA Section 313 Chemical List
US - Minnesota Permissible Exposure Limits (PELs)	US National Toxicology Program (NTP) 14th Report Part A Known to be Human Carcinogens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens	US NIOSH Recommended Exposure Limits (RELs)
US - Oregon Permissible Exposure Limits (Z-1)	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US - Rhode Island Hazardous Substance List	US SARA Section 302 Extremely Hazardous Substances
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Pennsylvania - Hazardous Substance List	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
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Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	No
Delayed (chronic) health hazard	No
Fire hazard	No
Pressure hazard	No
Reactivity hazard	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
Sulfuric acid	1000	454

State Regulations

US. CALIFORNIA PROPOSITION 65

None Reported

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (water; sulfuric acid; sodium metasilicate, anhydrous)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (water)

Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	<i>Y = All ingredients are on the inventory</i> <i>N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

## SECTION 16 OTHER INFORMATION

### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

### Definitions and abbreviations

PC — TWA: Permissible Concentration-Time Weighted Average  
PC — STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index

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