

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

1 Identification

- **Product identifier**
- **Trade name:** Hardness VLR
- **Catalogue number:** 00515351, 515350(BT), 515351(BT), 515353(0), 4515350(BT), 4515351(BT), 00515359(BT)
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

* 2 Hazard(s) identification

- **Classification of the substance or mixture**



Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



- **Signal word** Warning
- **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
- **Precautionary statements**
P264 Wash thoroughly after handling.
P280 Wear protective gloves / eye protection.
P302+P352 If on skin: Wash with plenty of water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **Other hazards** No further relevant information available.

* 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of organic and inorganic compounds
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: Hardness VLR

(Contd. of page 1)

CAS: 9004-34-6 EINECS: 232-674-9 RTECS: FJ5691460	cellulose		50–60%
CAS: 115-69-5 EINECS: 204-100-7 RTECS: TY 2975000	2-amino-2-methylpropane-1,3-diol	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319	10–20%
CAS: 10101-89-0 EINECS: 231-509-8 RTECS: TC9575000	tri-Sodium phosphate dodecahydrate	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319	5–10%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately rinse with plenty of water.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed**
irritations
after inhalation:
mucosal irritations, Cough, Shortness of breath
after swallowing of large amounts:
weakness
fatigue
coma
- **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
mixture with combustible ingredients
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides (NO_x)
Phosphorus oxides (P_xO_x)
Carbon monoxide (CO) and carbon dioxide (CO₂)
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
- **Advice for emergency responders:** Protective equipment: see section 8
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: **Hardness VLR**

(Contd. of page 2)

- **Methods and material for containment and cleaning up:**
 - Ensure adequate ventilation.
 - Pick up mechanically.
 - Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
- **Advice on safe handling:** Prevent formation of dust.
- **Hygiene measures:**
 - Avoid contact with the skin.
 - Avoid contact with the eyes.
 - Take off immediately all contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.
 - Protect from exposure to the light.
 - Protect from humidity and water.
 - This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 - At this time, the other constituents have no known exposure limits.

CAS: 9004-34-6 cellulose

PEL (USA)	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV (USA)	Long-term value: 10 mg/m ³
EL (Canada)	Long-term value: 10* 3** mg/m ³ *total dust, **respirable fraction
EV (Canada)	Long-term value: 10 mg/m ³ paper fibre, total dust

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
 - Protective gloves
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: **Hardness VLR**

(Contd. of page 3)

- **Material of gloves**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

- **Penetration time of glove material**

Value for the permeation: Level ≤ 1 (10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Safety glasses

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment:**

Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **Appearance:**

Form / Physical state:	Tablets
Color:	Grey

- **Odor:** Odorless

- **Odor threshold:** Not applicable.

- **pH-value (7.8 g/l) at 20 °C (68 °F):** 10,4

- **Melting point/freezing point:** Not determined.

- **Initial boiling point and boiling range:** Not determined.

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** The product is not combustible.

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Flammability or explosive limits:**

Lower:	Not applicable.
Upper:	Not applicable.

- **Oxidizing properties:** none

- **Vapor Pressure:** Not applicable.

- **Density:** Not determined.

- **Relative density:** Not determined.

- **Vapor density:** Not applicable.

- **Evaporation rate:** Not applicable.

- **Solubility(ies)**

Water:	Partly soluble.
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- **Partition coefficient (n-octanol/water):** Not applicable.

- **Viscosity:** Not applicable.

- **Solvent content:**

Organic solvents:	0,0 %
Solids content:	100 %

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"

- **Chemical stability** Stable at ambient temperature (room temperature).

- **Possibility of hazardous reactions**

Aqueous solution reacts alkaline.

Reacts with strong acids and oxidizing agents.

- **Conditions to avoid** strong heating

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: **Hardness VLR**

(Contd. of page 4)

- **Incompatible materials:**
aluminum
copper
non-ferrous metal
- **Hazardous decomposition products:** see section 5

*11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· Acute toxicity estimate (ATE_(mix)) - Calculation method:		
Inhalative	GHS ATE _(mix)	52 mg/l/4h (dust)

- **LD/LC50 values that are relevant for classification:**

The following statements refer to the individual components.

CAS: 9004-34-6 cellulose		
Oral	LD50.	>5000 mg/kg (rat)
Dermal	LD50.	>2000 mg/kg (rabbit) (RTECS, limit test)
Inhalative	LC50.	>5.8 mg/l/4h (rat) (RTECS, limit test)

CAS: 115-69-5 2-amino-2-methylpropane-1,3-diol		
Oral	LD50	17000 mg/kg (rat) (RTECS)

CAS: 10101-89-0 tri-Sodium phosphate dodecahydrate		
Oral	LD50	7400 mg/kg (rat) (RTECS)

- **Primary irritant effect:**
- **on the skin:** Causes skin irritation.
- **on the eye:** Causes serious eye irritation.

· Information on components:		
CAS: 9004-34-6 cellulose		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: no irritation)

CAS: 115-69-5 2-amino-2-methylpropane-1,3-diol		
Irritation of skin	OECD 404	(rabbit: irritation)
Irritation of eyes	OECD 405	(rabbit: irritation)

- **Sensitization:** Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 9004-34-6 cellulose		
Sensitization	OECD 406	(guinea pig: negative)

- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)	
CAS: 999-99-9	one or more ingredient(s) Group 3: Not classifiable as to carcinogenicity to humans

· NTP (National Toxicology Program)	
None of the ingredients is listed.	

· OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Carcinogenicity** Based on available data, the classification criteria are not met.

- **Reproductive toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: **Hardness VLR**

(Contd. of page 5)

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 115-69-5 2-amino-2-methylpropane-1,3-diol

LC50 >10000 mg/l/96h (zebrafish)

CAS: 10101-89-0 tri-Sodium phosphate dodecahydrate

LC₀ ~2400 mg/l/48h (gold orfe) (OECD 203)
(anhydrous substance)

- **Bacterial toxicity:**

CAS: 115-69-5 2-amino-2-methylpropane-1,3-diol

EC10 >10000 mg/l (Pseudomonas putida) (16 h)

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

CAS: 115-69-5 2-amino-2-methylpropane-1,3-diol

log Pow <-3.8 (.)

- **Mobility in soil** No further relevant information available.

- **Other adverse effects**

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies. Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

- **DOT, IMDG, IATA**

UN3259

- **UN proper shipping name**

- **DOT**

Amines, solid, corrosive, n.o.s. (2-amino-2-methylpropane-1,3-diol)

- **IMDG, IATA**

AMINES, SOLID, CORROSIVE, N.O.S. (2-amino-2-methylpropane-1,3-diol)

- **Transport hazard class(es)**

- **DOT**



- **Class**

8 Corrosive substances

(Contd. on page 7)

— US —

Safety Data Sheet


acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: Hardness VLR

(Contd. of page 6)

· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, IMDG, IATA	III
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" acids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· Limited quantity (LQ):	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g

* 15 Regulatory information

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

· Sara

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· New Jersey Right-to-Know List:

CAS: 9004-34-6 cellulose

· New Jersey Special Hazardous Substance List:

None of the ingredients is listed.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/20/2017

Reviewed on 11/20/2017

Trade name: **Hardness VLR**

(Contd. of page 7)

· Pennsylvania Right-to-Know List:	
CAS: 9004-34-6	cellulose
CAS: 10101-89-0	tri-Sodium phosphate dodecahydrate
· Pennsylvania Special Hazardous Substance List:	
CAS: 10101-89-0	tri-Sodium phosphate dodecahydrate
· EPA (Environmental Protection Agency)	
None of the ingredients is listed.	
· NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
· Information about limitation of use: Employment restrictions concerning young persons must be observed.	
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

*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.

· Relevant phrases

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· **Date of preparation / last revision** 11/20/2017 / 22

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· Sources

Data arise from safety data sheets, reference works and literature.

RTECS (Registry of Toxic Effects of Chemical Substances)

· * **Data compared to the previous version altered.**