To Our Customers:

The attached Safety Data Sheet (SDS) was prepared by the vendor of the product you purchased through one of our divisions. We used the manufacturer's electronic document directly or scanned a paper copy and generated a file for our automated SDS delivery system.

All statements, technical information, and recommendations contained therein are solely that of the manufacturer of the product. We at Zep Inc. did not verify the accuracy and completeness of the statements and do not warrantee or guarantee the information. We provide vendor SDSs to assist our customers in their compliance efforts. The attached document is in compliance with one of the respective country regulatory requirements noted below:

The OSHA Hazard Communication Standard (in the United States)
The Hazardous Products Regulations (in Canada)

We made every effort to deliver all of the information prepared by the manufacturer. We cannot anticipate all conditions under which this information will be used. If you have any questions about the statements on the SDS, please contact the company shown on the document.

Zep Inc. assumes no liability or responsibility for loss or damage resulting from the improper use or handling of this product, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the manufacturer's product label and Safety Data Sheet.

Sincerely,

Product Stewardship Team
Zep Inc.

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

1 Identification

Product identifier

· **Trade name:** PV-Neutralizer Solution

· **Article number:** N/A

· **Recommended use and restriction on use**
· **Recommended use:** Neutralization of chlorine dioxide solution
· **Restrictions on use:** Contact manufacturer.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Pureline Treatment Systems, LLC
1241 N. Ellis Street Bensenville, IL 60106
(847) 963-8465
INFO@PURELINE.COM

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

Classification of the substance or mixture

GHS05 Corrosion

Met. Corr.1	H290	May be corrosive to metals.
Eye Dam.1	H318	Causes serious eye damage.

GHS07

Skin Corr. 1A	H303	May be harmful if swallowed
Acute Tox 4 (dermal)	H312	Harmful if in contact with skin
Aquatic Acute 3	H402	Harmful to aquatic life

· Additional information:
There are no other hazards not otherwise classified that have been identified.
0 percent of the mixture consists of ingredient(s) of unknown toxicity.

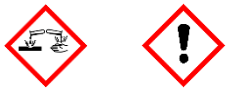
(cont'd on page 2)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**



GHS05 GHS07

Signal word Danger

· **Hazard-determining components of labeling:**
Sodium Hydroxide
· **Hazard statements**

H290	May be corrosive to metals.
H318	Causes serious eye damage.
H303	May be harmful if swallowed
H312	Harmful if in contact with skin
H318	Causes serious eye damage
H335	May cause respiratory irritation

· **Precautionary statements**

P234	Keep only in original container
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray
P626	Do not get in eyes, on skin, or on clothing
P264	Wash thoroughly after handling
Move P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P501	Dispose of contents/container in accordance with local/regional/national regulations

· **Hazard description:**
· **WHMIS-symbols:**
As of 11 February 2015, the current WHMIS system is being replaced by the GHS system.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

3 Composition/Information on ingredients

Chemical characterization: Mixtures
· **Description:** Mixture of the substances listed below with nonhazardous additions. · Dangerous components:

7757-83-7	sodium sulfite	10 - 40%
1310-73-2	sodium hydroxide	0-10%

· **Additional information:**
For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.

4 First-aid measures

Description of first aid measures
· **General Information**
Sulfites may cause allergic-type reaction including anaphylactic symptoms or less severe asthmatic episodes in certain susceptible people. The overall prevalence of sulphite sensitivity in the general population is unknown and probably low. Sulfite sensitivity is seen more frequently in asthmatic than in non-asthmatic people.
· **Potential Health effects**
Inhalation: Breathing of vapor or mist is possible if this material is heated or sprayed. Breathing this material causes irritation of the throat and lungs with cough and difficult breathing.
Skin: Causes severe skin irritation with redness, and itching or burning feeling, and/or swelling of the skin. May cause skin damage. Note: May cause skin burns and permanent skin damage.
Eye: Causes severe eye irritation with tearing, redness, or a stinging or burning feeling. May cause swelling of the eyes with blurred vision. Can injure eye tissue. Effects may become more serious with repeated or prolonged contact. Note: May cause burns and permanent injury to eye tissue.
Ingestion: Swallowing this material may be harmful or cause death. Harmful effects include burns and permanent damage to the digestive tract, including the mouth, throat, stomach and intestines. Symptoms may include severe abdominal pain and vomiting of blood. Blood loss through damaged tissue can lead to low blood pressure and shock

· **Signs and Symptoms of exposure:** Depending upon level and duration of exposure, other possible signs and symptoms
from breathing, swallowing, and/or entry of this material through the skin may include nosebleeds, hoarseness, sore throat, wheezing, cough with phlegm, bronchitis, tightness of the chest, pulmonary edema (high levels) irritation of the nose, throat, airways, and lungs with cough and difficult breathing, burns or ulceration of the gastrointestinal tract, including stridor, drooling, and vomiting

· **After inhalation:**
Remove individual to fresh air and get immediate attention. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration.

(cont'd on page 4)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

· **After skin contact:**
Wash exposed skin well with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing and thoroughly clean shoes before reuse. If symptoms develop, get medical attention.
· **After eye contact:**
Hold the eyelids apart and flush the eye gently with a large amount of water for at least 15 minutes. Get immediate medical attention.
· **After swallowing:**
Have person drink a glass of water immediately if able to swallow. Get immediate attention. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
· **Information for doctor:**
Exposure may aggravate acute or chronic asthma, emphysema, and bronchitis. Preexisting disorders of the following organs or systems, which may be aggravated by exposure to this material include : respiratory system (including asthma and other breathing disorders), gastrointestinal system, skin and blood (anemia, G6PD deficiency)
· **Most important symptoms and effects, both acute and delayed:**
Breathing difficulty
Coughing
Severe eye irritation, tearing, blurred vision
Nausea or vomiting in case of ingestion
· **Danger**
Danger of gastric perforation
Causes serious eye damage
Danger of impaired breathing
May be harmful in contact with skin
May cause respiratory irritation
· **Effects of repeated exposure**
This material may cause the following effects: respiratory tract damage (nose, throat, airways), lung damage, gastrointestinal damage, and skin damage. Observations in animal studies include: blood disorders and male reproductive effects. The relevance of these observations to humans is not clear at this time.

5 Fire-fighting measures

Extinguishing media
· **Suitable extinguishing agents:** Water in flooding quantities
· **For safety reasons unsuitable extinguishing agents:**
None specified
· **Special hazards arising from substance or mixture**
During hear=ting or in case of fire poisonous cases are produced.
· **Advice for firefighters**
· **Protective equipment**
Wear self-contained respiratory protective device with a full face piece operated in pressure-demand or positive pressure mode.
Wear fully proactive suit

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation
Wear proactive equipment. Keep unprotective persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol
· **Environmental precautions:** Sodium sulphite is non-hazardous solution commonly used as a waste water dechlorinating agent. High concentrations will contribute to elevated chemical oxygen demand in aquatic environment. Sodium chlorite in contact with acidic soil could generate chlorine dioxide.
· **Methods and material for containment and cleanup**
Leaks or spill may be located by spaying the area with ammonium hydroxide solution which forms a white fume in the presence of sulphur dioxide. Dilute with water and mop up or adsorb with an inert dry material and place in an appropriate waste disposal container. If necessary, neutralize the residue with a dilute solution of acetic acid.
Large spills should be handled by absorbing with DRY earth, sand or other noncombustible material. Do not touch spilled material with bare hands. Use water spray to reduce the chemical. Prevent entry into sewers, basement, or confined area; dike if needed. Call for assistance. Neutralize the residue with dilute solution of acetic acid.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
· **Precautions for safe handling**
Do not get in eyes, or on skin, or clothing. Do not taste or swallow. Avoid breathing mists or fumes. Do not handle with bare hands. Remove and wash contaminated clothing.
Carefully monitor handling, use and storage to avoid spills and leaks. Follow protective controls set forth in Section 8 when handling this product. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom. This solution contains sodium sulfite. It is a strong reducing agent, also, it is strong base. Mix only into water. Do not contaminate with garbage, organic matter, household products, chemicals, soap products, paint products, solvents, acids, vinegar, beverages, oils, pine oil, dirty rags, or any other foreign matter.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location. Do not store at temperatures above 37 C (100 F).
Store only in the original receptacle. Do not remove or deface labels or tags.
Provide ventilation for receptacles.
Avoid contact with combustible or readily oxidizable and reducible materials.

(cont'd on page 6)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from Acids, reducing agents, combustible material, oxidizers (such as hypochlorites, chlorite, chlorates), paints, sulfur and solvents.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.
· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**

· **Components with limit values that require monitoring at the workplace**

7757-83-7	sodium sulfite	TWA	None established
		STEL	None established
		IDHL	None established
1310-73-2	sodium hydroxide	TLV	Ceiling 2 mg/m3
		PEL	(Vacated) Ceiling 2 mg/m3
		TWA	2 mg/m3
		IDHL	10 mg/m3 Ceiling 2 mg/m3

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
· **Engineering controls:** Provide adequate ventilation.
· **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device when high concentrations are present.
Use suitable respiratory protective device when aerosol or mist is formed.
For large spills, respiratory protection may be advisable.
Wear NIOSH/MSHA approved acid gas respirator plus dust/mist pre-filters if any exposure to dust or mist is possible

(cont'd on page 7)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

Protective gloves

· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
Neoprene gloves
PVC gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Not suitable are gloves made of the following materials:** PVA gloves
· **Eye protection:**

Safety glasses
Chemical googles

Protective clothing

· **Body protection:**
Alkaline resistant protective clothing
Neoprene gloves, boots and apron
· **General**
Safety shower and eye wash station must be provided in the immediate work area. Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer
· **Limitation and supervision of exposure into the environment** Avoid release to the environment

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

9 Physical and chemical properties

Chemical Formula	Na_2SO_3, NaOH and H_2O
Molecular Weight	Not applicable
Appearance and Odor	Clear, water white to slightly yellow liquid, odorless.
Specific Gravity	1.23-1.30 at 25/25 °C
Vapor Pressure	The highest known value is 2.3 kPa (at 20 °C), water
Density	11.0-12.5 lbs./gal @ 25 °C
PH @ 25 °C	>12
Volatiles, Percent By Volume	50-75%
Crystallization Point	5 °C
Solubility In Water	Complete
Other Solubilities	Soluble in Glycerin
Boiling point	The lowest known value is 100°C (212°F), water
Melting point	Not applicable

10 Stability and reactivity

Reactivity
· **Chemical stability**
This chemical is stable under normal conditions
· **Conditions to avoid**
Evaporation to dryness
· **Incompatibility with other materials**
Acids, reducing agents, combustible materials, oxidizers (such as hypochlorites), soap, solvents, paints.
Contamination with acids, chlorine, chlorite, chlorate or organic materials.
· **Conditions to avoid**
Avoid contact with heat or flame source.
· **Hazardous decomposition products**
May release hazardous sulphur dioxide gas
· **Hazardous polymerization**
Will not occur

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

11 Toxicological information

Toxicological information
Routes of Entry: Inhalation. Ingestion.
· **Animal toxicology**

Inhalation LC50:	Not available
Dermal LD50:	Not available
Oral LD50:	820mg/Kg on mouse (for sodium sulfite)
LDL:	2825mg/Kg on Rabbit (for sodium sulfite)

· **Effect following prolonged or repeated exposure**
Prolonged or repeated exposure may cause dermatitis, and sensitization reactions.
Exposed to asthmatic, atopic and sulphite sensitive individuals may result in severe bronchoconstriction and reduced levels in forced expiratory volume.
Acidic decomposition of sodium sulfite may release toxic and hazardous fumes of Sulphur oxides, including sulphur dioxide, which may cause permanent pulmonary impairments from acute and chronic exposure.
· **Carcinogenicity**
Sodium sulphite or Sodium hydroxide is not listed by NTP, IARC, OSHA, EPA, or any other authority as a carcinogen.
· **Mutagenicity**
Sodium sulfite and sodium hydroxide has been evaluated for possible mutagenic effects (mutagenic) and may affect genetic material.
· **Reproductive/developmental toxicity**
Not available

12 Ecological information

Ecotoxicological information
Sodium sulphite is non-hazardous solution commonly used as a waste water dechlorinating agent. High concentrations will contribute to elevated chemical oxygen demand in aquatic environment.
Sodium chlorite in contact with acidic soil could generate chlorine dioxide.
· **Environmental fate**
Water: Sodium sulfite and sodium hydroxide are soluble in water
Soil: Sodium sulfite soil absorption is very low
· **Ecotoxicity**
Toxicity of the products of biodegradation: The products of degradation are less toxic than the product itself.

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

Trade name: PV-Neutralizer Solution

13 Disposal considerations

Waste determinations typically consider Sodium Sulfite contaminated materials to be non-hazardous.
All disposals of this material must be done in accordance with Federal, state and local regulations.
Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator.
· **Spill residues**
As a non-hazardous liquid waste, it must be disposed of in accordance with Federal, state, or local regulations in a permitted waste management facility.

14 Transport information

.
DOT

Classification: Not a DOT controlled material (United States)

15 Regulatory information

· **Label required:** Not Applicable

· **US Federal regulations**
TSCA 8(b) inventory: Sodium sulfite
· **Reportable quantity (RQ)**
Not Applicable
· **Toxic Substances Control Act (TSCA)**
Not Applicable
· **OSHA regulations**
Air contaminant (29 CFR 1910.1000) : Not listed
OSHA Specifically regulated Substance: Not listed
· **EPA regulations**
Not listed
Workplace Hazardous Materials Information System (WHMIS) classification
As of 11 February 2015, the current WHMIS system is being replaced by the GHS system.

Sodium Sulfite :	not controlled by WHMIS (Canada)
Sodium Hydroxide:	Class D-28: material causing other toxic effects(TOXIC).
CLASS E:	Corrosive liquid.

· **DSCL (EEC):** R22- Harmful if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. S22- Do not breathe dust. S24/25- Avoid contact with skin and eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36- Wear suitable protective clothing.

(cont'd on page 11)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 01/27/2017 Reviewed on 01/26/2017 Rev. 1

· **HMIS (U.S.A.):**

Health Hazard:	3
Fire Hazard:	0
Reactivity:	0
Personal Protection:	E

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.
· **Date of preparation / last revision** 01/11/2017

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Ox. Liq. 1: Oxidising Liquids, Hazard Category 1
Ox. Sol. 1: Oxidising Solids, Hazard Category 1
Met. Corr.1: Corrosive to metals, Hazard Category 1
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

· **Sources:**
This SDS sheet was prepared based on previous MSDS information provided in PureLine PV Neutralizer MSDS sheet dated June 12, 2014 (Revision 1) and information supplied by:

Dr. John Thangaraj Ph.D
PureLine Treatment Systems