

1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

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Product Name: V-Set
Revision Date: 9/17/2015
Version: 1
SDS Number: 453
Common Name: Inorganic Acid
CAS Number: MIXTURE
Product Code: ACI/VSET
Chemical Family: Mineral Acid, Inorganic Acid
Chemical Formula: *** PROPRIETARY ***
Product Use: Rust controlling sour.
Emergency Phone: +1-800-424-9300 (CHEMTREC)

2 HAZARDS IDENTIFICATION

NFPA:
 HMIS III:

Health = 2, Fire = 0, Reactivity = 0
 H2/F0/PH0



HMIS III	
HEALTH	□ 2
FLAMMABILITY	0
PHYSICAL HAZARDS	0
PERSONAL PROTECTION D Face Shield and Eye Protection, Gloves, Apron	

PERSONAL PROTECTION INDEX			
A		G	
B		H	
C		I	
D		J	
E		K	
F		X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions
A		n	
O		p	
q		r	
s		Additional information	
t		u	
w		y	
z			

GHS Signal Word:
DANGER

GHS Hazard Pictograms:



GHS Classifications:

- Physical, Corrosive to Metals, 1
- Health, Acute toxicity, 5 Oral
- Health, Skin corrosion/irritation, 1 B
- Health, Specific target organ toxicity - Single exposure, 3

GHS Phrases:

- H290 - May be corrosive to metals
- H303 - May be harmful if swallowed
- H314 - Causes severe skin burns and eye damage
- H335 - May cause respiratory irritation

GHS Precautionary Statements:

- P234 - Keep only in original container.
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
- P262 - Do not get in eyes, on skin, or on clothing.
- P264 - Wash skin thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P321 - Specific treatment (see supplementary first aid instructions on this label).
- P363 - Wash contaminated clothing before reuse.
- P390 - Absorb spillage to prevent material damage.
- P403+233 - Store in a well ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container to an approved waste disposal plant.

3

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
N/A	80-85%	Proprietary, non-hazardous, non-regulated
7664-38-2	15-20%	Phosphoric acid

V-Set

SDS Number: 453

Revision Date: 9/17/2015

Page 3 of 9

4 FIRST AID MEASURES

- Inhalation:** Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.
- Skin Contact:** Take off contaminated clothing and shoes immediately. Promptly flush skin with water for at least 15 minutes to ensure all chemical is removed. If reddening develops and/or persists, obtain medical attention.
- Eye Contact:** Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Remove contact lenses if present and easy to do so. Get immediate medical attention. Continue rinsing eyes during transport to hospital.
- Ingestion:** Rinse mouth with water. Give 3-4 glasses of water or milk to dilute stomach contents. Do NOT induce vomiting. If vomiting occurs, give more water or milk. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11.

Indication of any immediate medical attention and special treatment needed:

No data available.

5 FIRE FIGHTING MEASURES

- Flammability:** Not flammable
- Flash Point:** DNA
- Flash Point Method:** DNA
- Burning Rate:** No data available
- Autoignition Temp:** No data available
- LEL:** DNA
- UEL:** DNA

Extinguishing Media:

Water Spray
Carbon Dioxide
Alcohol-Resistant Foam
Dry Chemical

Special Hazards Arising From the Substance or Mixture:

Phosphorous Oxides

Advice for Firefighters:

Firefighters should wear full-face, positive-pressure respirators.

Further Information:

If incinerated, may release toxic fumes.

V-Set gives off Hydrogen by reaction with metals. Hydrogen is flammable and potentially explosive. Use caution.

V-Set forms flammable gases with aldehydes, cyanides, mercaptans and sulfides. Use caution if any of these materials are present.

Use water spray to cool unopened containers.

See Section 7 for more information on safe handling.

See Section 8 for more information on personal protection equipment.

See Section 13 for disposal information.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment.
Keep from contacting skin or eyes.
Avoid breathing vapors, mist or gas.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

Environmental Precautions:

Prevent further release (leakage/spillage) if safe to do so.
Do not allow product to enter drains.
Do not allow to drain to environment.

Methods and Materials for Containments and Cleaning Up:

Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).
Neutralizing agent like Sodium Bicarbonate may also be used to absorb/neutralize any spilled material.
Place contaminated material into suitable, closed containers for disposal.
Dispose of contaminated material according to Section 13.
After spillage has been collected, area may be flushed with water or wet-brushed.
Ensure adequate ventilation.

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 information on proper disposal.

7 HANDLING AND STORAGE

Handling Precautions:

Avoid breathing vapors or mist.
Avoid contact with eyes, skin, or clothing.
Use approved containers only, including 316L stainless steel, glass, polyethylene and FRP.
Keep containers closed when not in use.
Do not expose containers to open flame, excessive heat, or direct sunlight.
Do not puncture or drop containers.
Handle with care and avoid spillage on the floor.
Keep material out of reach of children.
Keep material away from incompatible materials.
Do not use corrosive-sensitive materials such as mild steel, aluminum and 304 stainless steel for handling product.
Wash thoroughly after handling.
Ensure adequate ventilation.

Storage Requirements:

Keep container tightly closed.
Avoid inhalation of vapors or mist upon opening container.
Store in a well-ventilated place.
Do not store in direct sunlight.
Store above freezing point.
Store away from strong bases, alcohols, amines, aldehydes, cyanides, mercaptans, sulfides, sulfites, powdered metals, reactive metals (Zinc & Aluminum) and their alloys (Brass, etc.) and mild steel.



8

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equip: Eye/face protection:
When using material use safety goggles, gloves, apron and face shield according to HMIS PP, D. A vapor respirator according to HMIS PP, U is also highly recommended when working with heated and/or concentrated product in poorly-ventilated spaces. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection:
Handle with gloves made from Viton, Nitrile, PVC or Buna rubber. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

Body Protection:
Chemically resistant gloves, apron, safety goggles and face shield are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.

Respiratory protection:
Full-face vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds. Respiratory protection must comply with 29 CFR 1910.134.

Control of environmental exposure:
Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with workplace control parameters:

Component(s): Phosphoric acid
CAS No(s): 7664-38-2
USA ACGIH (TWA/TLV): 1 mg/m³
USA ACGIH (STEL/TLV): 3 mg/m³
USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminants (TWA): 1 mg/m³
USA OSHA Table Z-1 Limits for Air Contaminants (STEL): 3 mg/m³
USA NIOSH Recommended Exposure Limits (TWA): 1 mg/m³
USA NIOSH Recommended Exposure Limits (ST): 3 mg/m³

Biological occupational exposure limits:

Contains no substances with biological occupational exposure limits values.

V-Set

SDS Number: 453

Revision Date: 9/17/2015

Page 6 of 9

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless liquid	Odor:	Odorless
Physical State:	Liquid	Molecular Formula:	MIXTURE
Odor Threshold:	Not determined	Solubility:	100%
Particle Size:	Not determined	Softening Point:	Not determined
Spec Grav./Density:	1.077 g/ml (8.99 lbs/gal)	Percent Volatile:	DNA
Viscosity:	@ 25°C: 1.35 Centistokes	Heat Value:	Not determined
Sat. Vap. Conc.:	Not determined	Freezing/Melting Pt.:	< 0 °C (32 °F)
Boiling Point:	> 100 °C (212 °F)	Flash Point:	DNA
Flammability:	(solid, gas): Not flammable	Octanol:	Not determined
Partition Coefficient:	Not determined	Vapor Density:	Not determined
Vapor Pressure:	Not determined	VOC:	DNA
pH:	@ 1%: < 2.0	Bulk Density:	DNA
Evap. Rate:	Not determined	Auto-Ignition Temp:	Not determined
Molecular weight:	MIXTURE	UFL/LFL:	DNA
Decomp Temp:	Not determined		

10 STABILITY AND REACTIVITY

Stability:	Product is stable under normal conditions.
Conditions to Avoid:	Incompatibilities, flames, ignition sources.
Materials to Avoid:	Strong bases, alcohols, amines, aldehydes, cyanides, mercaptans, sulfides, sulfites, powdered metals, reactive metals (Zinc & Aluminum) and their alloys (Brass, etc.) and mild steel.
Hazardous Decomposition:	Phosphorous Oxides.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Component(s): Phosphoric acid
CAS No(s): 7664-38-2

Acute Toxicity:

LD50 Oral - Rat: 1,530 mg/kg
 LC50 Dermal - Rabbit: 2,740 mg/kg
 LC50 Inhalation - Rabbit: 1.689 mg/l (1 h)
 LC50 Inhalation - Rat: > 0.85 mg/l (1 h)

Skin Corrosion/Irritation: Rabbit skin - Corrosive (24 h).

Serious Eye Damage/Eye Irritation: Rabbit eyes - Corrosive (24 h).

Respiratory or Skin Sensitation: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity:



Safety Data Sheet (SDS)

Applied Chemical Innovations, LLC

V-Set

SDS Number: 453

Revision Date: 9/17/2015

Page 7 of 9

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity - Single Exposure: Respiratory system - May cause respiratory irritation. Product has low vapor pressure at ambient conditions and is not expected to present a significant hazard. If product is aerosolized, sprayed and/or used at elevated temperature, product may present a respiratory hazard.

Specific Target Organ Toxicity - Repeated Exposure: No data available.

Aspiration Hazard: No data available.

Additional Information:

Component: Phosphoric acid; RTECS: TB6300000

12

ECOLOGICAL INFORMATION

Component(s): Phosphoric acid

CAS No(s): 7664-38-2

Toxicity:

Toxicity to fish:

LC50 - *Gambusia affinis* (Mosquito Fish): 138 mg/l (96 h)

Toxicity to bacteria:

EC50 - Activated sludge: 270 mg/l

Persistence and Degradability:

No data available.

Bioaccumulative potential:

No data available.

Mobility in Soil:

No data available.

Results of PBT and vPvB assessment:

Not required/conducted.

Other Adverse Effects:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Concentrated spills may present environmental hazard due to low pH. May be harmful to aquatic life.

13 DISPOSAL CONSIDERATIONS

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

14 TRANSPORT INFORMATION

DOT Class: Corrosive (8) #8
UN #: UN 1805, Class: 8, Proper Shipping Name: Phosphoric acid solution

DOT (US)

UN Number: 1805
Class: 8
Packing Group: III
ERG #: 154
Proper Shipping Name: Phosphoric Acid solution
Marine Pollutant: No
Poison Inhalation Hazard(s): No
Reportable Quantity (RQ): > 5,000 lbs (as Phosphoric Acid)

IMDG

UN Number: 1805
Class: 8
Packing Group: III
EMS-No: F-A, S-B
Proper Shipping Name: Phosphoric Acid solution
Marine Pollutant: No

IATA

UN Number: 1805
Class: 8
Packing Group: III
ERG #: 154
Proper Shipping Name: Phosphoric Acid solution
Marine Pollutant: No



15 REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Phosphoric acid (7664382 15-20%) CERCLA, CSWHS, EPCRAWPC, MASS, NJHS, OSHAWAC, PA, SARA311/312, SARA313, TSCA, TXAIR

REGULATORY KEY DESCRIPTIONS



Safety Data Sheet (SDS)

Applied Chemical Innovations, LLC

V-Set

SDS Number: 453

Revision Date: 9/17/2015

Page 9 of 9

CERCLA = Superfund clean up substance
CSWS = Clean water Act Hazardous substances
EPCRAWPC = EPCRA Water Priority Chemicals
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
OSHAWAC = OSHA workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA311/312 = SARA 311/312 Toxic Chemicals
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level

16

OTHER INFORMATION

Disclaimer:

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that Applied Chemical Innovations, LLC believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of Applied Chemical Innovations, LLC's control, Applied Chemical Innovations, LLC makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

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