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Safety Data Sheet

Date Effective: December 8, 2014

02615-AA, 02615-AB
SPI-Chem™ Paraformaldehyde

Section 1: Identification

Chemical Name/Synonyms..... Paraformaldehyde

Chemical family..... aldehydes

Emergencies
Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...
Worldwide phone: 1-(703)-527-3887
Worldwide FAX: 1-(703)-741-6090
Toll-free phone: 1-(800)-424-9300 USA only

Product or Trade Name..... SPI-Chem™ Paraformaldehyde

CAS #'s..... 30525-89-4

Chemical Formula..... $[CH_2O]_n$

HAZARDS IDENTIFICATION

Classification of Substance

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable solids: (Category 2)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 4)
Skin irritation (Category 2)
Serious eye damage (Category 1)
Carcinogenicity (“Category 2)
Specific target organ toxicity – single exposure, Respiratory system (Category 3)
Acute aquatic toxicity (Category 3)
Chronic aquatic toxicity (Category 3)

Pictogram

Signal word Danger

Hazard Statements

H228 Flammable solid
H302 + H332 harmful if swallowed or if inhaled

H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H335 May cause respiratory irritation
H351 Suspected of causing cancer
H412 Harmful to aquatic life with long lasting effects

Precautionary Statements

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240 Ground/bond container and receiving equipment
P241 Use explosion-proof electrical/ ventilation/ lighting/ equipment
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
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
P272 Contaminated work clothing should not be allowed out of the workplace
P273 Avoid release to the environment
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water
P304 + P340 IF INHALED: Remove victim to fresh air and keep at a rest in a position of comfortable breathing.
P305 + P351 +P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P403 + P233 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

Hazards not otherwise classified or not covered by GHS:

Combustible dust

Hazardous Material Information System USA

Health..... 2
Fire Hazard..... 2
Reactivity..... 2
Personal Protection.....

NFPA Rating (estimated)

Health..... 2
Flammability..... 2
Reactivity..... 2

Section 2: Composition

Chemical Name	CAS#	Percent
Paraformaldehyde	30525-89-4	90 - 100%

Section 3: Hazard Identification

Emergency overview:

Appearance: Powder.
Flash Point: 70°C (158°F) – closed cup

Warning! Causes burns of eye, skin, digestive tract, respiratory tract. May cause sensitization. Harmful if swallowed, inhaled, or absorbed through skin. Aspiration hazard if swallowed - can enter lungs and cause damage.

Target Organs: Respiratory system,eyes,skin

Potential Health Effects

Eye: Causes serious eye damage. Seek medical attention.

Skin: May cause skin sensitization. Causes skin irritation.

Ingestion: Moderately toxic by ingestion.

Aspiration hazard: May cause damage to the lungs.

Inhalation: Inhalation of dust will produce irritation to the gastro-intestinal tract and respiratory tract characterized by burning, sneezing, and coughing.

Chronic: Repeated or prolonged exposure to this substance can product target organ effects. Repeated skin exposure can produce local skin destruction or dermatitis. Repeated inhalation of dust can produce varying degrees of respiratory irritation or lung damage.

Section 4: First Aid Measures

If inhaled:
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Seek medical attention.

In case of skin contact:
Wash off with soap and plenty of water. Seek medical attention.

In case of eye contact:
Flush with water for several minutes, then remove contacts if present and easy to do so. Continue flushing with water for additional 10 to 15 minutes. Seek immediate medical attention.

If swallowed:
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention.

Indication of any immediate medical attention and special treatment needed:
No data available.

Section 5: Fire Fighting Measures

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture:
Carbon oxide, including carbon monoxide and carbon dioxide.

Advice for firefighters:
Wear self contained breathing apparatus for firefighting if necessary.

Further information:
Use water spray to cool unopened containers.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up:
Use non-sparking equipment. Sweep up and shovel. Contain spillage. Collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

Reference to other sections.
For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling:
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition. No smoking. Take measures to prevent the build up of electrostatic charge. See Precautionary Statements in Section 1.

Conditions for safe storage, including any incompatibilities:
Keep container tightly closed in a dry and well-ventilated place.

Handle and store under inert gas. Moisture sensitive. Keep in a dry place.

Specific end use(s):
Laboratory chemical

Section 8: Exposure Controls and Personal Protection

Components with workplace control parameters:
Contains no substances with occupational exposure limit values.

Appropriate engineering controls:
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal protective equipment:

Eye/Face Protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) OR EN 166 (EU).

Skin Protection: Handle with gloves. Recommended material nitrile rubber, minimum thickness 0.1 mm. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NISOH (US) OR CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

Appearance: powder

Odor: pungent

Odor threshold: no data available

pH: 4.0-5.5

Melting point/Freezing point: Melting point range: 120-170°C (248-338°F) – literature

Initial boiling point and boiling range: no data available

Flash point: 70°C (158°F) – closed cup

Evaporation rate: no data available

Flammability (solid, gas): May for combustible dust concentrations in air-purify

Upper/lower flammability or explosive limits: no data available

Vapor pressure: No data available

Vapor density: no data available

Relative density: 0.88 g/cm^3 at 25°C (77°F)

Water solubility: insoluble

Partition coefficient: n-octanol/water: no data available

Auto-ignition temperature: no data available

Decomposition temperature: no data available

Viscosity: no data available

Explosive properties: no data available

Oxidizing properties: no data available

Bulk density: 500 – 800 kg/m^3

Section 10: Stability and Reactivity

Reactivity: no data available

Chemical stability: stable under recommended storage conditions

Possibility of hazardous reactions: no data available

Conditions to avoid: Exposure to moisture; Heat, flames and sparks; Extremes of temperature; Direct sunlight

Incompatible materials: Brass, Steel (all types and surface treatments), Copper, Acid anhydrides, Strong oxidizing agents, Strong reducing agents

Hazardous decomposition products: Carbon oxides under fire conditions.

Other decomposition products: no data available

Section 11: Toxicological Information

I**nformation on toxicological effects:**

Acute toxicity

LD50 Oral Rat 592 mg/kg

LC50 Inhalation Rat 4h 1,070mg/m^3
Remarks: Sense organs and Special Senses (Nose, Eye, Ear, and Taste):
Eye: Lachrimation
Lungs, Thorax, or Respiration: Dyspnea

LDLo Dermal Rat 10,000 mg/kg

Skin corrosion/irritation: No data available

Serious eye damage/eye irritation:
Eyes Rabbit Severe eye irritation

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

Formaldehyde, the decomposition product of paraformaldehyde, has been listed as a carcinogen by NTP and IARC.

Limited evidence of carcinogenicity in animal studies.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human 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 known or anticipated 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: Inhalation – May cause respiratory irritation.

Specific target organ toxicity – repeated exposure: No data available.

Aspiration hazard: No data available.

Additional Information:

RTECS: RV0540000

May cause permanent eye injury.

Liver - irregularities – Based on Human Evidence.

Section 12: Ecological Information

Toxicity

Toxicity to daphnia and other aquatic invertebrates:

EC50 Daphnia magna (Water flea) 42 mg/l – 24 hours

Persistence and degradability: No data available

Ratio BOD/Th Bod 37%

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

Section 13: Disposal Considerations

Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

Section 14: Transport Information

DOT (US)

UN number: 2213
Proper shipping name: Paraformaldehyde
Class 4.1
Packing Group: III
Reportable Quantity (RQ): 1000 lbs
Marine pollutant: No
Poison Inhalation Hazard: NO

IMDG

UN number: 2213
Proper shipping name: Paraformaldehyde
Class 4.1
Packing Group: III
EMS-No: F-A, G
Marine pollutant: No

IATA:

UN number: 2213
Proper shipping name: Paraformaldehyde
Class 4.1
Packing Group: III

Section 15: Regulatory Information

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

State Right to Know Components:

Paraformaldehyde, CAS# 30525-89-4 is listed in the Massachusetts, New Jersey and Pennsylvania Right to Know Lists.

California Prop. 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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