SAFETY DATA SHEET

Silver Paste Plus

Section 1. Identification

GHS product identifier : Silver Paste Plus

Product code : 05063-AB

Other means of identification

: Silver Composition; SPI Supplies® Silver Paste Plus™

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Electrical Industry and Electronics.

Area of application: Industrial applications, Professional applications.

Supplier's details : SPI Supplies Division Structure Probe, Inc.

206 Garfield Ave. West Chester, PA 19380

United States

Telephone: 1-(610)-436-5400

http://www.2spi.com

e-mail address of person responsible for this SDS

: SDS@2spi.com

Emergency telephone number (with hours of

operation)

: CHEMTREC

Toll Free: 1-(800)-424-9300 (USA + Canada) (24/7)

International: 1-(703)-741-5970 (24/7)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard

(29 CFR 1910.1200).

Classification of the : H226 FLAMMABLE LIQUIDS - Category 3 substance or mixture H319 EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms :





Signal word : Warning

Hazard statements : H226 - Flammable liquid and vapor.

H319 - Causes serious eye irritation.

Precautionary statements

Section 2. Hazards identification

Prevention: P280 - Wear protective gloves, protective clothing and eye or face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P241 - Use explosion-proof electrical, ventilating or lighting equipment.

P242 - Use non-sparking tools.

P243 - Take action to prevent static discharges.

P233 - Keep container tightly closed. P264 - Wash thoroughly after handling.

Response : P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with 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. P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national

and international regulations.

Supplemental label elements

: Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise

classified

: Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification

: Silver Composition; SPI Supplies® Silver Paste Plus™

Ingredient name	Other names	%	CAS number
silver	-	60 - 70	7440-22-4
2-methoxy-1-methylethyl acetate	-	10 - 20	108-65-6
2-Propenoic acid, 2-methyl-, polymer with ethyl	-	1 - 10	65859-05-4
2-methyl-2-propenoate and methyl			
2-propenoate			

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Skin contact

: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact: Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation dryness cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may

be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

Section 5. Fire-fighting measures

Specific hazards arising from the chemical

: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products

 Decomposition products may include the following materials: carbon dioxide carbon monoxide

metal oxide/oxides hydrocarbons

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
silver	ACGIH TLV (United States, 3/2019).
	TWA: 0.1 mg/m ³ 8 hours. Form: Dust and fumes
	NIOSH REL (United States, 10/2016).
	TWA: 0.01 mg/m³, (as Ag) 10 hours. Form: METAL
	DUST AND SOLUBLE
	OSHA PEL (United States, 5/2018).
	TWA: 0.01 mg/m³, (as Ag) 8 hours.
2-methoxy-1-methylethyl acetate	AIHA WEEL (United States, 7/2018).
, ,	TWA: 50 ppm 8 hours.
2-Propenoic acid, 2-methyl-, polymer with ethyl 2-methyl- 2-propenoate and methyl 2-propenoate	None.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator w/ full or ½ face N95 cartridge masks if exposure limits are exceeded or symptoms are experienced.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Viscous.]

Color : Gray.

Odor : Acrylic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 51°C (123.8°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive : Not available.

(flammable) limits

Vapor pressure : Not available.
Vapor density : Not available.

Section 9. Physical and chemical properties

Relative density : Not available.

Density : 3 g/cm³

Solubility : Very slightly soluble in the following materials: cold water and hot water.

Partition coefficient: n-

octanol/water

: Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:

oxidizing materials

Reactive or incompatible with the following materials: acids and alkalis.

Hazardous decomposition

products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
silver	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5.6 mg/l	4 hours
	LD50 Oral	Rat - Male, Female	3702 mg/kg	_
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-

Irritation/Corrosion

Not available.

Sensitization

Not available.

Section 11. Toxicological information

Mutagenicity

Conclusion/Summary: Not available.

Carcinogenicity

Conclusion/Summary: Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	• •	Route of exposure	Target organs
2-methoxy-1-methylethyl acetate	Category 3		Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely

routes of exposure

: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact: Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:

pain or irritation watering

redness

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation dryness cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects: Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate

effects

: Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or

dermatitis.

Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	(3	(mg/kg)	Inhalation (gases) (ppm)	(vapors)	Inhalation (dusts and mists) (mg/ I)
Silver Paste Plus silver	5695.4 3702		N/A N/A	73.3 N/A	N/A N/A
2-methoxy-1-methylethyl acetate	8532		N/A	11	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
silver	Acute EC50 1.4 µg/l Marine water Acute EC50 0.24 µg/l Fresh water Acute LC50 11 µg/l Fresh water	Algae - Chroomonas sp. Daphnia - Daphnia magna Crustaceans - Ceriodaphnia reticulata	4 days 48 hours 48 hours
2-methoxy-1-methylethyl acetate	Acute LC50 2.13 μg/l Fresh water Chronic NOEC 5 mg/l Marine water LC50 >100 mg/l	Fish - Pimephales promelas Algae - Glenodinium halli Fish	96 hours 72 hours 96 hours

Conclusion/Summary: Not available.

Persistence and degradability

Product/ingredient name	Test	Result		Dose		Inoculum
2-methoxy-1-methylethyl acetate	302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	100 % - 8 c	lays	-		-
Product/ingredient name	Aquatic half-life		Photolysis		Biodeg	radability
2-methoxy-1-methylethyl	-		-		Readily	

Bioaccumulative potential

Date of issue/Date of revision	: 09/18/2020	Date of previous issue	: No previous validation	Version : 1	9/14
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acetate

Section 12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
silver 2-methoxy-1-methylethyl acetate	1.2	70 -	low low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	Paint related material	PAINT RELATED MATERIAL	Paint related material
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

Section 14. Transport information

DOT Classification

: This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials in package sizes less than the product reportable

Reportable quantity 1538.5 lbs / 698.46 kg [61.505 gal / 232.82 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Limited quantity Yes.

Packaging instruction Exceptions: 150. Non-bulk: 173. Bulk: 242. Quantity limitation Passenger aircraft/rail: 60 L. Cargo aircraft: 220 L.

Special provisions 367, B1, B52, B131, IB3, T2, TP1, TP29

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

> Emergency schedules F-E, _S-E_ **Special provisions** 163, 223, 367, 955

IATA : The environmentally hazardous substance mark may appear if required by other

transportation regulations.

Quantity limitation Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger

Aircraft: 10 L. Packaging instructions: Y344.

Special provisions A3, A72, A192

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in the

event of an accident or spillage.

Transport in bulk according : Not available.

to IMO instruments

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) PAIR: 2-methoxy-1-methylethyl acetate

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are active or exempted.

Clean Water Act (CWA) 307: silver

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)** : Not listed

Clean Air Act Section 602

Class I Substances

Not listed

Clean Air Act Section 602

Class II Substances

: Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals

: Not listed

(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

Section 15. Regulatory information

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 3

EYE IRRITATION - Category 2A

HNOC - Defatting irritant

Composition/information on ingredients

Name	%	Classification
2-methoxy-1-methylethyl acetate		FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	silver	7440-22-4	60 - 70
Supplier notification	silver	7440-22-4	60 - 70

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts: The following components are listed: SILVERNew York: The following components are listed: SilverNew Jersey: The following components are listed: SILVER

Pennsylvania: The following components are listed: SILVER COMPOUNDS

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

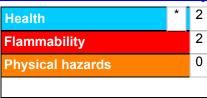
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
o ,	On basis of test data Calculation method

History

Date of issue/Date of

revision

Date of previous issue

Version

Prepared by

Key to abbreviations

: 09/18/2020

: No previous validation

: Sphera Solutions

: ATE = Acute Toxicity Estimate

AMP = Acceptable maximum peak above the acceptable ceiling concentration for an

8-hr shift

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available
UN = United Nations

References : HCS (U.S.A.)- Hazard Communication Standard

International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.