SAFETY DATA SHEET



CircuitWorks® Lead-Free Flux Dispensing Pen

Section 1. Identification

GHS product identifier

: CircuitWorks® Lead-Free Flux Dispensing Pen

Product code

: CW8400

Chemical name

: CIRCUITWORKS® LEAD-FREE FLUX DISPENSING PEN

Other means of identification

: Fluxing agents Soldering Industrial/Professional use

Product type

: Liquid.

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

Not applicable.

Supplier's details

: Chemtronics

8125 Cobb Center Drive Kennesaw, GA 30152

Tel. 770-424-4888 or toll free 800-645-5244

Emergency telephone number (with hours of

operation)

: Chemtrec - 1-800-424-9300 or collect 703-527-3887

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 substance or mixture : FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms





Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapor. May cause an allergic skin reaction. Causes serious eye irritation.

Precautionary statements

Prevention

: Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Keep container tightly closed. Avoid breathing vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response

: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

CircuitWorks® Lead-Free Flux Dispensing Pen

Section 2. Hazards identification

Hazards not otherwise classified

: None known.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Chemical name

: CIRCUITWORKS® LEAD-FREE FLUX DISPENSING PEN

Other means of identification

: Fluxing agents Soldering Industrial/Professional use

Ingredient name	%	CAS number
rosin	≥75 - ≤90 ≥10 - ≤25 ≤1.7	67-63-0 8050-09-7 110-15-6

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 and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

: 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.

Skin contact

: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. 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 : Can cause central nervous system (CNS) depression.

Skin contact: May cause an allergic skin reaction.

Ingestion: Do not ingest. If swallowed then seek immediate medical assistance.

Over-exposure signs/symptoms

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 2/12

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : Adverse symptoms may include the following:

dizziness/vertigo drowsiness/fatigue

headache

central nervous system depression

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : Adverse symptoms may include the following:

Ingestion Seek medical attention.

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. Wash

contaminated clothing thoroughly with water before removing it, or wear gloves.

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.

Specific hazards arising from the chemical

: Highly 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: carbon dioxide

carbon monoxide

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.

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 3/12

Section 6. Accidental release measures

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 nonemergency 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. 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

Date of issue/Date of revision : 11/2/2021 4/12 Date of previous issue Version: 1 : No previous validation

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Isopropyl alcohol	ACGIH TLV (United States, 3/2020). STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. NIOSH REL (United States, 10/2016). STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 10 hours. TWA: 400 ppm 10 hours. OSHA PEL (United States, 5/2018). TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 8 hours. TWA: 980 mg/m³ 8 hours. TWA: 980 mg/m³ 8 hours.
rosin	ACGIH TLV (United States, 3/2020). Skin sensitizer. Inhalation sensitizer.
succinic acid	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.

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. Contaminated work clothing should not be allowed out of the workplace. 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.

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 5/12

Section 8. Exposure controls/personal protection

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.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Flash point

Physical state : Liquid. [Liquid.]

Color : Colorless to light yellow. Odor : Alcohol-like. [Slight]

: Not available. **Odor threshold** pН : Not available. **Melting point/freezing point** : -89°C (-128.2°F) **Boiling point, initial boiling** : 82°C (179.6°F)

point, and boiling range

: Closed cup: 17°C (62.6°F) [Tagliabue]

: >1 (butyl acetate = 1) **Evaporation rate**

Flammability : Extremely flammable in the presence of the following materials or conditions: open

flames, sparks and static discharge.

Lower and upper explosion

limit/flammability limit

: Not available.

Vapor pressure : 4.4 kPa (33 mm Hg)

Relative vapor density : >1 [Air = 1]

Relative density : 0.81 Solubility : Not available. Solubility in water : Not available. Partition coefficient: n-: Not applicable.

octanol/water

Auto-ignition temperature

: 399°C (750.2°F) **Decomposition temperature** : Not available. **Viscosity** : Not available. Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

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.

: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, **Conditions to avoid** braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not

allow vapor to accumulate in low or confined areas.

Incompatible materials Reactive or incompatible with the following materials: oxidizing materials

Date of issue/Date of revision : 11/2/2021 6/12 Date of previous issue : No previous validation Version

Section 10. Stability and reactivity

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
Isopropyl alcohol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
rosin	LD50 Oral	Rat	7600 mg/kg	-
succinic acid	LD50 Oral	Rat	2260 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Isopropyl alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant Eyes - Severe irritant	Rabbit Rabbit	-	10 mg 100 mg	-
succinic acid	Skin - Mild irritant Eyes - Severe irritant	Rabbit Rabbit	-	500 mg 750 ug	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Isopropyl alcohol	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

: Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression.

Skin contact: May cause an allergic skin reaction.

Ingestion: Do not ingest. If swallowed then seek immediate medical assistance.

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 7/12

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : Adverse symptoms may include the following:

dizziness/vertigo drowsiness/fatigue

headache

central nervous system depression

Skin contact : Adverse symptoms may include the following:

irritation redness

Ingestion : Adverse symptoms may include the following:

Ingestion Seek medical attention.

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

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General: Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

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)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/ I)
Isopropyl alcohol	5000	12800	N/A	N/A	N/A
rosin	7600	N/A	N/A	N/A	N/A
succinic acid	2260	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 8/12

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
Isopropyl alcohol	Acute EC50 7550 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1400000 µg/l Marine water Acute LC50 4200 mg/l Fresh water	Crustaceans - Crangon crangon Fish - Rasbora heteromorpha	48 hours 96 hours
succinic acid	Acute EC50 374200 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Isopropyl alcohol	0.05	-	low
rosin	1.9 to 7.7		high
succinic acid	-0.59		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	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN1263	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3	3	3
Packing group	II	II	II	II	II

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 9/12

CircuitWorks® Lead-Free Flux Dispensing Pen Section 14. Transport information **Environmental** No. No. No.

Additional information

hazards

: Product classified as per the following sections of the Transportation of Dangerous **TDG Classification**

Goods Regulations: 2.18-2.19 (Class 3).

IATA : Quantity limitation Passenger and Cargo Aircraft: 1 L. Packaging instructions: 305.

Special provisions Excepted Quantity

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) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)**

Clean Air Act Section 602 : Not listed

Class I Substances

Clean Air Act Section 602

Class II Substances

: Not listed

: Not listed

: Not listed

DEA List I Chemicals

(Precursor Chemicals)

DEA List II Chemicals

(Essential Chemicals)

: Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 2

EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

Composition/information on ingredients

Name	%	Classification
Isopropyl alcohol	≥75 - ≤90	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A
rosin	≥10 - ≤25	COMBUSTIBLE DUSTS SKIN SENSITIZATION - Category 1
Solvent naphtha (petroleum), medium aliph.	≤5	FLAMMABLE LIQUIDS - Category 3
succinic acid	≤1.7	EYE IRRITATION - Category 2A

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Isopropyl alcohol	67-63-0	≥75 - ≤90
Supplier notification	Isopropyl alcohol	67-63-0	≥75 - ≤90

10/12 Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version

CircuitWorks® Lead-Free Flux Dispensing Pen

Section 15. Regulatory information

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: ISOPROPYL ALCOHOL; 2-PROPANOL

New York : None of the components are listed.

New Jersey : The following components are listed: ISOPROPYL ALCOHOL; 2-PROPANOL The following components are listed: 2-PROPANOL; ROSIN CORE SOLDER **Pennsylvania**

PYROLYSIS PRODUCTS

California Prop. 65

WARNING: This product can expose you to Solvent naphtha (petroleum), medium aliph., which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Solvent naphtha (petroleum), medium aliph.	-	-

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.

Inventory list

Australia : All components are listed or exempted. Canada : All components are listed or exempted. China : All components are listed or exempted. **Europe** : All components are listed or exempted. Japan inventory (CSCL): Not determined. **Japan** Japan inventory (ISHL): Not determined. **New Zealand** : All components are listed or exempted. **Philippines** : All components are listed or exempted. **Republic of Korea** : All components are listed or exempted. **Taiwan** : All components are listed or exempted.

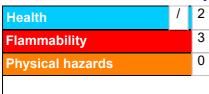
Thailand : Not determined. **Turkey** : Not determined.

United States : All components are active or exempted. **Viet Nam** : All components are listed or exempted.

Date of issue/Date of revision : 11/2/2021 Version 11/12 Date of previous issue : No previous validation

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
EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method

History

Date of printing : 11/2/2021

Date of issue/Date of : 11/2/2021

revision

Date of previous issue : No previous validation

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate

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 SGG = Segregation Group UN = United Nations

References : Not available.

▼ Indicates information that has changed from previously issued version.

Notice to reader

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.

Date of issue/Date of revision : 11/2/2021 Date of previous issue : No previous validation Version : 1 12/12