Conrad Electronic SE, Klaus-Conrad-Str. 1, D-92240 Hirschau

Item no.: 1424764

Material Safety Data Sheet

For your information:

The Conrad item no. 1424764 consists out of 4 separate MSDS (material safety data sheet), which are:

MSDS for conductivity solution 1413 µS
MSDS for conductivity solution 12880 µS
MSDS for pH 4.01
MSDS for pH 7.00

They are combined into this PDF.

Material Safety Data Sheet

1. Product & Company Identification

Product:	Potassium chloride (for conductivity solution 1413 µS)
Manufacturer:	Conrad Electronic SE
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	27.01.2017

2. Hazards Identification

Synonyms: No information available.

Recommended Use: Laboratory chemicals

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.

R -phrase(s): None

3. Composition/Information on Ingredients

Haz/Non-haz

Component	Weight %	EC No.	Classification
Potassium chloride 7447-40-7	>95	231-211-8	-

For the full text of the R phrases mentioned in this Section, see Section 16

4. First Aid Measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Ingestion

Do not induce vomiting. Obtain medical attention.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Notes to Physician

Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

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

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Flash Point

No information available.

Method

No information available.

Autoignition Temperature

No information available.

6. Accidental Release Measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Sweep up or vacuum up spillage and collect in suitable container for disposal Avoid dust formation

7. Handling And Storage

Handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

Specific use(s)

No information available.

8. Exposure Controls / Personal Protection

Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

Occupational exposure controls

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Eye Protection

Tightly fitting safety goggles

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Hand Protection

Protective gloves

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

9. Physical and Chemical Properties

Physical State	Solid
Appearance	White
Odor	Odorless
pH	No information available.
Boiling Point/Range	1420 °C / 2588 °F@ 760 mmHg
Melting Point/Range	770 °C / 1418 °F
Flash Point	No information available.
Water Solubility	340 g/l (20°C)
Specific Gravity	1.987
Molecular Formula	Cl K
Molecular Weight	74.54

10. Stability And Reactivity

Stability Hygroscopic.

Conditions to Avoid Incompatible products. Excess heat. Avoid dust formation. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Hydrogen chloride gas

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological Information

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium chloride	2600 mg/kg (Rat)		

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Neurological Effects No information available.

Mutagenic Effects No information available.

Reproductive Effecs No information available.

Developmental Effects No information available.

Target Organs None known.

Other Adverse Effects See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

12. Ecological Information

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Potassium chloride	EC50: 2500 mg/L/72h			EC50: 825 mg/L/48h

Persistence and Degradability No information available

Bioaccumulative Potential No information available.

Mobility No information available.

Material Safety Data Sheet

13. Disposal Considerations

Waste from Residues / Unused Products

Dispose of in accordance with local regulations

Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal

14. Transport Information

IMDG/IMO Not regulated

ADR Not regulated

IATA Not regulated

15. Regulatory Information

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC

Labelling R -phrase(s) none

S -phrase(s) S24/25 - Avoid contact with skin and eyes

International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Potassium chloride	231-211-8	-		X	X	-	X	X	X	X	KE-29086 X

16. Other Information

Restrictions on use No information available.

Training advice No information available.

Literary reference No information available.

Disclaimer

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Material Safety Data Sheet

1. Product & Company Identification

Product:	Potassium chloride (for conductivity solution 12880 µS)
Manufacturer:	Conrad Electronic SE
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	27.01.2017

2. Hazards Identification

Synonyms: No information available.

Recommended Use: Laboratory chemicals

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R -phrase(s): None

3. Composition/Information on Ingredients

Haz/Non-haz

Component	Weight %	EC No.	Classification
Potassium chloride 7447-40-7	>95	231-211-8	-

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Ingestion

Do not induce vomiting. Obtain medical attention.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Notes to Physician

Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

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

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Flash Point

No information available.

Method

No information available.

Autoignition Temperature

No information available.

6. Accidental Release Measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Sweep up or vacuum up spillage and collect in suitable container for disposal Avoid dust formation

7. Handling And Storage

Handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place.

Specific use(s)

No information available.

8. Exposure Controls / Personal Protection

Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

Occupational exposure controls

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Eye Protection

Tightly fitting safety goggles

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Hand Protection

Protective gloves

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

9. Physical and Chemical Properties

Physical State	Solid
Appearance	White
Odor	Odorless
pH	No information available.
Boiling Point/Range	1420 °C / 2588 °F@ 760 mmHg
Melting Point/Range	770 °C / 1418 °F
Flash Point	No information available.
Water Solubility	340 g/l (20°C)
Specific Gravity	1.987
Molecular Formula	Cl K
Molecular Weight	74.54

10. Stability And Reactivity

Stability Hygroscopic.

Conditions to Avoid Incompatible products. Excess heat. Avoid dust formation. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Hydrogen chloride gas

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

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Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium chloride	2600 mg/kg (Rat)		

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Neurological Effects No information available.

Mutagenic Effects No information available.

Reproductive Effecs No information available.

Developmental Effects No information available.

Target Organs None known.

Other Adverse Effects See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

12. Ecological Information

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Potassium chloride	EC50: 2500 mg/L/72h			EC50: 825 mg/L/48h

Persistence and Degradability No information available

Bioaccumulative Potential No information available.

Mobility No information available.

13. Disposal Considerations

Waste from Residues / Unused Products

Dispose of in accordance with local regulations

Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal

14. Transport Information

IMDG/IMO Not regulated

ADR Not regulated

IATA Not regulated

15. Regulatory Information

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC

Labelling R -phrase(s) none

S -phrase(s) S24/25 - Avoid contact with skin and eyes

International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Potassium chloride	231-211-8	-		X	X	-	X	X	X	X	KE-29086 X

16. Other Information

Restrictions on use No information available.

Training advice No information available.

Literary reference No information available.

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Material Safety Data Sheet

1. Product & Company Identification

Product:	Buffer Solution pH 4.01
Manufacturer:	Conrad Electronic SE
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	27.01.2017

2. Composition / Information On Ingredients

Chemical Name: pH buffer

Chemical Formula: Not applicable

Chemical Family: Not applicable

Hazard: Practically non-toxic.

Demineralized Water

Percent Range: >95.0

Percent Range Units: weight / weight

Hazard: No effects anticipated.

Other components, each

Percent Range: < 1.0

Percent Range Units: volume / volume

Hazard: Any ingredient(s) of this product listed as "Other component(s)" is not considered a health hazard to the user of this product.

Potassium Acid Phthalate

TSCA CAS Number: 877-24-7

Percent Range: 1.0 - 5.0

Percent Range Units: weight / volume

Hazard: May cause irritation.

3. Hazards Identification

Emergency Overview:

Appearance:	Clear, red liquid	
Odor:	None	
Potential Health Effects:	Eye Contact:	No effects are anticipated
	Skin Contact:	No effects are anticipated
	Skin Absorption:	No effects anticipated
	Target Organs:	Not applicable
	Ingestion:	No Effects

4. First Aid

Eye Contact:	Flush eyes with water. Call physician if irritation develops.
Skin Contact (First Aid):	Wash skin with soap and plenty of water.
Ingestion (First Aid):	Give large quantities of water. Call physician immediately.
Inhalation:	None required.

5. Fire Fighting Measures

Flammable Properties:	Material will not burn.	
Flash Point:	Not applicable	
Method:	Not applicable	
Flammability Limits:	Lower Explosion Limits:	Not applicable
	Upper Explosion Limits:	Not applicable
Autoignition Temperature:	Not applicable	
Hazardous Combustion Products:	Not applicable	
Fire / Explosion Hazards:	None reported	
Static Discharge:	None reported.	
Mechanical Impact:	None reported	
Extinguishing Media:	Use media appropriate to surrounding fire conditions	
Fire Fighting Instruction:	As in any fire, wear self-contained breathing apparatus pressuredemand and full protective gear.	

6. Accidental Release Measures

Containment Technique:

Stop all leaks. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Absorb spill with inert material (e.g. dry sand, earth).

Clean-up Technique:

Absorb spilled liquid with non-reactive sorbent material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse.

7. Handling / Storage

Handling:	Avoid contact with eyes Wash thoroughly after handling.
Storage:	Keep container tightly closed when not in use.
Flammability Class:	Not applicable

8. Exposure Controls / Protective Equipment

Engineering Controls:	Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:	
Eye Protection:	Safety glasses with top and side shields
Skin Protection:	Disposable latex gloves
Inhalation Protection:	Adequate ventilation
Precautionary Measures:	Avoid contact with: eyes Wash thoroughly after handling.

9. Physical / Chemical Properties

Appearance:	Clear, red liquid
Physical State:	Liquid
Odor:	None
pH:	4.01
Melting Point:	< 0°C (< 32°F)
Specific Gravity (water = 1):	1.002
Solubility:	Water: Soluble
	Acid: Soluble
	Other: Not determined
Metal Corrosivity:	Not determined

10. Stability / Reactivity

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Extreme temperatures

Reactivity / Incompatibility: None reported

Hazardous Decomposition: None reported.

11. Toxicological Information

Product Toxicological Data: LD50: None reported

Skin and Eye Irritation Data: None reported

Mutation Data: None reported

Reproductive Effects Data: None reported

12. Ecological Information

Product Ecological Information: No ecological data available for this product.

Ingredient Ecological Information: No ecological data available for the ingredients of this product.

13. Disposal Considerations

EPA Waste ID Number:

None

Special Instructions (Disposal):

Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain.

Empty Containers:

Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.

NOTICE (Disposal):

These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. Transport Information

D.O.T.:

D.O.T. Proper Shipping Name: Not Currently Regulated

DOT Hazard Class:	NA
DOT Subsidiary Risk:	NA
DOT ID Number:	NA
DOT Packing Group:	NA

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Not Currently Regulated

ICAO Hazard Class:	NA
ICAO Subsidiary Risk:	NA
ICAO ID Number:	NA
ICAO Packing Group:	NA

I.M.O.:

I.M.O. Proper Shipping Name: Not Currently Regulated

I.M.O. Hazard Class:	NA
I.M.O. Subsidiary Risk:	NA
I.M.O. ID Number:	NA
I.M.O. Packing Group:	NA

15. Regulatory Information

U.S. Federal Regulations:

O.S.H.A.: This product does not meet the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): This product is not hazardous under 29 CFR.1910.1200 and therefore is not covered by Title III under SARA.

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

16. Other Information

Intended Use:

Buffer

References:

29 CFR 1900 - 1910 (Code of Federal Regulations – Labor). Air Contaminants, Federal Register, Vol. 54,No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's

Threshold Limit Values and Biological Exposure Indices for Legend:

NA - Not Applicable w/w - weight/weight

ND - Not Determined w/v - weight/volume

NV - Not Available v/v - volume/volume

USER RESPONSIBILITY:

Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

This information was compiled from current manufacturer's MSDS's of the component parts of the product.

Disclaimer: The Manufacturer believes that the information contained in the Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

Material Safety Data Sheet

1. Product & Company Identification

Product:	Buffer Solution pH 7.00
Manufacturer:	Conrad Electronic SE
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	27.01.2017

2. Composition / Information On Ingredients

Chemical Name: pH buffer

Chemical Formula: Not applicable

Chemical Family: Not applicable

Hazard: Practically non-toxic.

Potassium Phosphate, Monobasic

Percent Range: < 1.0

Percent Range Units: weight / weight

Hazard: May cause irritation.

Demineralized Water

Percent Range: >95.0

Percent Range Units: volume / volume

Hazard: No effects anticipated.

Other components, each

Percent Range: < 1.0

Percent Range Units: volume / volume

Hazard: Any ingredient(s) of this product listed as "Other component(s)" is not considered a health hazard to the user of this product.

Sodium Phosphate, Dibasic

Percent Range: < 1.0

Percent Range Units: weight / weight

Hazard: May cause irritation.

3. Hazards Identification

Emergency Overview:

Appearance:	yellow and clear liquid	
Odor:	No	
Potential Health Effects:	Eye Contact:	No effects anticipated
	Skin Contact:	No effects anticipated
	Medical Conditions Aggravated:	None reported
	Chronic Effects:	No effects anticipated

4. First Aid

Eye Contact:	Flush eyes with water. Call physician if irritation develops.
Skin Contact (First Aid):	Wash skin with plenty of water.
Ingestion (First Aid):	Give large quantities of water. Call physician immediately.
Inhalation:	None required.

5. Fire Fighting Measures

Flammable Properties:	Material will not burn.
Flash Point:	Not applicable
Method:	Not applicable
Flammability Limits:	Lower Explosion Limits: Not applicable
	Upper Explosion Limits: Not applicable
Autoignition Temperature:	Not applicable
Hazardous Combustion Products:	None Reported
Fire / Explosion Hazards:	None reported
Static Discharge:	None reported.
Mechanical Impact:	None reported
Extinguishing Media:	Use media appropriate to surrounding fire conditions
Fire Fighting Instruction:	As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. Accidental Release Measures

Containment Technique:

Stop all leaks. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Absorb spill with inert material (e.g. dry sand, earth).

Clean-up Technique:

Absorb spilled liquid with non-reactive sorbent material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse.

7. Handling / Storage

Handling:	Avoid contact with eyes Wash thoroughly after handling.
Storage:	Protect from heat. Keep container tightly closed when not in use.
Flammability Class:	Not applicable

8. Exposure Controls / Protective Equipment

Engineering Controls:	Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:	
Eye Protection:	**S**afety glasses with top and side shields
Skin Protection:	Not applicable
Inhalation Protection:	Adequate ventilation
Precautionary Measures:	Avoid contact with: eyes Wash thoroughly after handling.

9. Physical / Chemical Properties

Appearance:	Yellow and clear, liquid
Physical State:	Liquid
Molecular Weight:	Not applicable
Odor:	None
pH:	7.0 at 25°C
Vapor Pressure:	Not determined
Vapor Density (air = 1):	Not determined
Boiling Point:	~100 °C (~212 °F)
Melting Point:	~0 °C (~32 °F)
Specific Gravity (water = 1):	~1.0
Solubility:	Water: Soluble
	Acid: Soluble
	Other: Not determined
Metal Corrosivity:	Not determined

10. Stability / Reactivity

Chemical Stability: Stable (be stored under proper conditions).

Conditions to Avoid: Heat Evaporation

Reactivity / Incompatibility: None reported

Hazardous Decomposition: None reported

11. Toxicological Information

Product Toxicological Data: LD50: None reported

LC50: None reported

Dermal Toxicity Data: None reported

Skin and Eye Irritation Data: None reported

Mutation Data: None reported

Reproductive Effects Data: None reported

Ingredient Toxicological Data: No toxicological data available for the ingredients of this product.

12. Ecological Information

Product Ecological Information: No ecological data available for this product.

Ingredient Ecological Information: No ecological data available for the ingredients of this product.

13. Disposal Considerations

EPA Waste ID Number:

None

Special Instructions (Disposal):

Open cold water tap completely, slowly pour the material to the drain.

Empty Containers:

Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.

NOTICE (Disposal):

These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. Transport Information

D.O.T.:

D.O.T. Proper Shipping Name: Not Currently Regulated

DOT Hazard Class:	NA
DOT Subsidiary Risk:	NA
DOT ID Number:	NA
DOT Packing Group:	NA

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Not Currently Regulated

ICAO Hazard Class:	NA
ICAO Subsidiary Risk:	NA
ICAO ID Number:	NA

I.M.O.:

I.M.O. Proper Shipping Name: Not Currently Regulated

I.M.O. Hazard Class:	NA
I.M.O. Subsidiary Risk:	NA
I.M.O. ID Number:	NA
I.M.O. Packing Group:	NA

15. Regulatory Information

U.S. Federal Regulations:

O.S.H.A.: This product does not meet the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

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S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

16. Other Information

Intended Use:

Buffer

References:

29 CFR 1900 - 1910 (Code of Federal Regulations – Labor). Air Contaminants, Federal Register, Vol. 54,No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's

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