

Kit Summary

Product Code(s) AB211098
Product name Tryptophan Assay Kit (Fluorometric)

TRP Deproteinization Reagent

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
TCA	200-927-2	76-03-9	100	Skin Corr. 1A (H314) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available

TRP Neutralization Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Potassium hydroxide	215-181-3	1310-58-3	50	Skin Corr. 1A (H314) Acute Tox. 4 (H302)	

TRP Condenser

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Methanol	200-659-6	67-56-1	15	STOT SE 1 (H370) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Flam Liq. 2 (H225)	-
Formaldehyde	200-001-8	50-00-0	1	Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331)	-

TRP Catalyst

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Hydrochloric acid	231-595-7	7647-01-0	2	STOT SE 3 (H335) Skin Corr. 1B (H314)	-

GHS / CLP - GHS - Classification

**Signal Word**

Danger

Hazard statements

H314 - Causes severe skin burns and eye damage

H350 - May cause cancer

H370 - Causes damage to organs

H341 - Suspected of causing genetic defects

H317 - May cause an allergic skin reaction

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

H226 - Flammable liquid and vapor

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/ eye protection/ face protection

P281 - Use personal protective equipment as required

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

P270 - Do not eat, drink or smoke when using this product

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P370 + P378 - In case of fire: Use foam for extinction

P264 - Wash face, hands and any exposed skin thoroughly after handling

P272 - Contaminated work clothing should not be allowed out of the workplace

P363 - Wash contaminated clothing before reuse

P307 + P311 - IF exposed: Call a POISON CENTER or doctor/ physician

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P312 - Call a POISON CENTER or doctor/ physician if you feel unwell

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention

P391 - Collect spillage

P273 - Avoid release to the environment

P233 - Keep container tightly closed

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

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3 Other information

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

TRANSPORT INFORMATION

<u>DOT</u>	Excepted Quantity
Proper shipping name	Chemical kit
Hazard class	9.0
UN/ID No	3316
Packing group	II

<u>IATA</u>	Excepted Quantity
UN/ID No	3316
Proper shipping name	Chemical kit
Hazard class	9.0
Packing group	II

<u>ADR</u>	Excepted Quantity
Proper shipping name	Chemical kit
Hazard class	9.0
UN/ID No	3316
Packing group	II

Safety Data Sheet

Issuing date No data available

Revision Date 05-Feb-2019

Version 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	TRP Deproteinization Reagent
Recommended use	For research use only
Supplier Address	Abcam Inc 1 Kendall Square, Ste 341 Cambridge, MA 02139-1517 USA Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
E-mail address	technical@abcam.com
Emergency telephone	Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ systemic toxicity (single exposure)	Category 3
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1
Ozone	Not applicable

GHS Label elements, including precautionary statements



Signal Word

Danger

Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/ eye protection/ face protection

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

P264 - Wash face, hands and any exposed skin thoroughly after handling

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/ physician if you feel unwell

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P363 - Wash contaminated clothing before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P273 - Avoid release to the environment

P391 - Collect spillage

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

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
TCA	76-03-9	100	Skin Corr. 1A (H314) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice	Immediate medical attention is required.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required.
Notes to physician	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.
Protection of first-aiders	Use personal protective equipment. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes Thermal decomposition can lead to release of irritating gases and vapors In the event of fire and/or explosion do not breathe fumes
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 to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Soak up with inert absorbent material. Clean contaminated surface thoroughly. Dike far ahead of liquid spill for later disposal. Take up mechanically and collect in suitable container for disposal. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.
Other information	Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE

Advice on safe handling	Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.
Technical measures/Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
TCA 76-03-9	TWA: 1 ppm	(vacated) TWA: 1 ppm (vacated) TWA: 7 mg/m ³	TWA: 1 ppm TWA: 7 mg/m ³

NIOSH IDLH: *Immediately Dangerous to Life or Health*

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering measures Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection Tightly fitting safety goggles. Face-shield.
Skin and body protection No special protective equipment required.
Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	No information available
pH	No information available	Autoignition temperature	No information available
Flash point	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available	solubility	No information available.
Explosion limits	No information available	Vapor Pressure @20°C (kPa)	No information available
Specific Gravity	No data available	VOC Content(%)	Not applicable
Evaporation rate	No information available		
Vapor density	No data available		

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Incompatible products Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Conditions to avoid Exposure to air or moisture over prolonged periods.

Hazardous decomposition products Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Corrosive to skin, eyes and/or respiratory tract.

Inhalation Corrosive by inhalation Causes burns

Eye contact Causes burns Corrosive to eyes

Skin contact Corrosive Causes burns

Ingestion Causes burns

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TCA	3310 mg/kg (Rat)		

Chronic toxicity

Chronic toxicity Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen Avoid repeated exposure Possible risks of irreversible effects

carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
TCA	A3	Group 3		

ACGIH: (American Conference of Governmental Industrial Hygienists)
 A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
 Group 3 - Not Classifiable as to Carcinogenicity in Humans

Target Organ Effects Eyes. Gastrointestinal tract (GI). Respiratory system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

TOXIC TO AQUATIC ORGANISMS. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Dispose of in accordance with local regulations.

Contaminated packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	yes
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
TCA	X	X	X		X

International Regulations

WHMIS Note:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Revision Date 05-Feb-2019

Revision Note No information available.

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of MSDS

Safety Data Sheet

Issuing date No data available

Revision Date 05-Feb-2019

Version 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product name TRP Neutralization Solution

Recommended use For research use only

Supplier Address Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address technical@abcam.com

Emergency telephone Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements



Signal Word

Danger

Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H302 - Harmful if swallowed

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/ eye protection/ face protection

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P270 - Do not eat, drink or smoke when using this product

P264 - Wash face, hands and any exposed skin thoroughly after handling

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/ physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Potassium hydroxide	1310-58-3	30-60	Skin Corr. 1A (H314) Acute Tox. 4 (H302)

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician. Immediate medical attention is required.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
Ingestion	Rinse mouth. If symptoms persist, call a physician. Do NOT induce vomiting. Immediate medical attention is required.
Notes to physician	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.
Protection of first-aiders	Use personal protective equipment. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes Thermal decomposition can lead to release of irritating gases and vapors In the event of fire and/or explosion do not breathe fumes
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 to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

Environmental precautions Try to prevent the material from entering drains or water courses.

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

Other information Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE

Advice on safe handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering measures
Showers
Eyewash stations
Ventilation systems

Personal protective equipment

- Eye/face protection** Tightly fitting safety goggles. Face-shield.
- Skin and body protection** No special protective equipment required.
- Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	No information available
pH	No information available	Autoignition temperature	No information available
Flash point	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available	solubility	No information available.
Explosion limits	No information available	Vapor Pressure @20°C (kPa)	No information available
Specific Gravity	No data available	VOC Content(%)	Not applicable
Evaporation rate	No information available		
Vapor density	No data available		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible products	Incompatible with strong acids and bases. Incompatible with oxidizing agents.
Conditions to avoid	Exposure to air or moisture over prolonged periods.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information	Harmful if swallowed Corrosive to skin, eyes and/or respiratory tract.
Inhalation	Corrosive by inhalation Causes burns
Eye contact	Causes burns Corrosive to eyes
Skin contact	Corrosive Causes burns
Ingestion	Harmful if swallowed Causes burns

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium hydroxide	214 mg/kg (Rat)		

Chronic toxicity

Chronic toxicity	Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen Avoid repeated exposure Possible risks of irreversible effects
Target Organ Effects	Eyes. Respiratory system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Potassium hydroxide		80: 96 h Gambusia affinis mg/L LC50 static		
Chemical Name		log Pow		
Potassium hydroxide		0.83		

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Potassium hydroxide	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT

Not dangerous goods

IATA

Not dangerous goods

ADR

Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	yes
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide	1000 lb			X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Potassium hydroxide	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Potassium hydroxide	X	X	X		X

International Regulations

WHMIS Note:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H314 - Causes severe skin burns and eye damage H302 - Harmful if swallowed

Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H302 - Harmful if swallowed

Revision Date 05-Feb-2019

Revision Note No information available.

Disclaimer

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End of MSDS

Safety Data Sheet

Issuing date No data available

Revision Date 05-Feb-2019

Version 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	TRP Condenser
Recommended use	For research use only
Supplier Address	Abcam Inc 1 Kendall Square, Ste 341 Cambridge, MA 02139-1517 USA Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
E-mail address	technical@abcam.com
Emergency telephone	Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute inhalation toxicity - dust/mist	Category 4
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Specific target organ systemic toxicity (single exposure)	Category 1
Ozone	Not applicable
Category 3	Flammable liquids

GHS Label elements, including precautionary statements



Signal Word

Danger

Hazard statements

H350 - May cause cancer
H370 - Causes damage to organs
H341 - Suspected of causing genetic defects
H317 - May cause an allergic skin reaction
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H226 - Flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/ eye protection/ face protection
P281 - Use personal protective equipment as required
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P270 - Do not eat, drink or smoke when using this product
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P370 + P378 - In case of fire: Use foam for extinction
P264 - Wash face, hands and any exposed skin thoroughly after handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P363 - Wash contaminated clothing before reuse
P307 + P311 - IF exposed: Call a POISON CENTER or doctor/ physician
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
P233 - Keep container tightly closed
P403 + P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Methanol	67-56-1	10-30	STOT SE 1 (H370) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Flam Liq. 2 (H225)
Formaldehyde	50-00-0	1-5	Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331)

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician. Immediate medical attention is required.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. May cause an allergic skin reaction.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Rinse mouth. If symptoms persist, call a physician.
Notes to physician	May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.
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 to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Keep people away from and upwind of spill/leak.
Environmental precautions	Try to prevent the material from entering drains or water courses.
Methods for containment	Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Advice on safe handling	Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapors or spray mist.
Technical measures/Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methanol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³
Formaldehyde 50-00-0	Ceiling: 0.3 ppm	TWA: 0.75 ppm (vacated) TWA: 3 ppm unless specified in 1910.1048 (vacated) STEL: 10 ppm 30 min unless specified in 1910.1048 (vacated) Ceiling: 5 ppm unless specified in 1910.1048 STEL: 2 ppm see 29 CFR 1910.1048	IDLH: 20 ppm Ceiling: 0.1 ppm 15 min TWA: 0.016 ppm

Engineering measures Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection Tightly fitting safety goggles.
Skin and body protection No special protective equipment required.
Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	No information available
pH	No information available	Autoignition temperature	No information available
Flash point	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available	solubility	No information available.
Explosion limits	No information available	Vapor Pressure @20°C (kPa)	No information available
Specific Gravity	No data available	VOC Content(%)	16
Evaporation rate	No information available		
Vapor density	No data available		

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Incompatible products None known based on information supplied.

Conditions to avoid None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

Hazardous polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Harmful if swallowed Product is harmful by skin contact Harmful by inhalation May cause sensitization of susceptible persons Toxic by inhalation, in contact with skin and/or if swallowed

Inhalation Harmful by inhalation

Skin contact Harmful in contact with skin

Ingestion Harmful if swallowed

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methanol	5628 mg/kg (Rat)	15800 mg/kg (Rabbit)	83.2 mg/L (Rat) 4 h 64000 ppm (Rat) 4 h
Formaldehyde	500 mg/kg (Rat)		0.578 mg/L (Rat) 4 h

Chronic toxicity

Chronic toxicity Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure

carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Formaldehyde	A2	Group 1	Reasonably Anticipated	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP: (National Toxicity Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Sensitization As a precaution the product should be treated as a sensitizer.

Mutagenic effects Possible risks of irreversible effects.

Target Organ Effects Central nervous system (CNS). Eyes. Gastrointestinal tract (GI). Respiratory system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Methanol		28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through		
Formaldehyde		22.6 - 25.7: 96 h Pimephales promelas mg/L LC50 flow-through 1510: 96 h Lepomis macrochirus µg/L LC50 static 41: 96 h Brachydanio rerio mg/L LC50 static 0.032 - 0.226: 96 h Oncorhynchus mykiss mL/L LC50 flow-through 100 - 136: 96 h Oncorhynchus mykiss mg/L LC50 static 23.2 - 29.7: 96 h Pimephales promelas mg/L LC50 static		2: 48 h Daphnia magna mg/L LC50 11.3 - 18: 48 h Daphnia magna mg/L EC50 Static
Chemical Name		log Pow		
Methanol		-0.77		
Formaldehyde		0.35		

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Do not re-use empty containers.

US EPA Waste Number

U122 U154

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methanol - 67-56-1		Included in waste stream: F039		U154
Formaldehyde - 50-00-0	U122	Included in waste streams: K009, K010, K038, K040, K156, K157		U122

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Methanol	Toxic Ignitable
Formaldehyde	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Methanol	67-56-1	15	1.0
Formaldehyde	50-00-0	1	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	yes
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Formaldehyde	100 lb			X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Methanol	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Formaldehyde	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Formaldehyde	50-00-0	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methanol	X	X	X	X	X
Formaldehyde	X	X	X	X	X

International Regulations

Chemical Name	Carcinogen Status	Exposure limits
Methanol		Mexico: TWA 200 ppm Mexico: TWA 260 mg/m ³ Mexico: STEL 250 ppm Mexico: STEL 310 mg/m ³
Formaldehyde	A2	Mexico: Ceiling 2 ppm Mexico: Ceiling 3 mg/m ³

WHMIS Note:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction H341 - Suspected of causing genetic defects if inhaled H350 - May cause cancer if swallowed H301 - Toxic if swallowed H311 - Toxic in contact with skin H331 - Toxic if inhaled H370 - Causes damage to organs if inhaled H225 - Highly flammable liquid and vapor

Hazard statements

H350 - May cause cancer
H370 - Causes damage to organs
H341 - Suspected of causing genetic defects
H317 - May cause an allergic skin reaction
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H226 - Flammable liquid and vapor

Revision Date

05-Feb-2019

Revision Note

No information available.

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of MSDS

Safety Data Sheet

Issuing date No data available

Revision Date 05-Feb-2019

Version 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product name TRP Catalyst
Recommended use For research use only
Supplier Address Abcam Inc
 1 Kendall Square, Ste 341
 Cambridge, MA 02139-1517
 USA
 Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
 Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
E-mail address technical@abcam.com
Emergency telephone Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

Ozone	Not applicable
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GHS Label elements, including precautionary statements

Not dangerous

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Hydrochloric acid	7647-01-0	1-5	STOT SE 3 (H335) Skin Corr. 1B (H314)

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Move to fresh air.
Ingestion	Clean mouth with water. Drink plenty of water.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
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 to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Ensure adequate ventilation.
Environmental precautions	Try to prevent the material from entering drains or water courses.
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice.
Technical measures/Storage conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering measures
Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection

No special protective equipment required.

Skin and body protection

No special protective equipment required.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	No information available
pH	No information available	Autoignition temperature	No information available
Flash point	No information available	Boiling point/boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting point/range	No information available	solubility	No information available.
Explosion limits	No information available	Vapor Pressure @20°C (kPa)	No information available
Specific Gravity	No data available	VOC Content(%)	Not applicable
Evaporation rate	No information available		
Vapor density	No data available		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible products	None known based on information supplied.
Conditions to avoid	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h

Chronic toxicity

carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydrochloric acid		Group 3		

IARC: (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Target Organ Effects Eyes. Respiratory system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydrochloric acid		282: 96 h Gambusia affinis mg/L LC50 static		

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Hydrochloric acid	7647-01-0	2	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrochloric acid	5000 lb			X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Hydrochloric acid	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Hydrochloric acid	X	X	X	X	X

International Regulations

Chemical Name	Carcinogen Status	Exposure limits
Hydrochloric acid		Mexico: Ceiling 5 ppm Mexico: Ceiling 7 mg/m ³

WHMIS Note:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3**

H335 - May cause respiratory irritation H314 - Causes severe skin burns and eye damage

Revision Date

05-Feb-2019

Revision Note

No information available.

Disclaimer

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End of MSDS