



Be Right™

SAFETY DATA SHEET

Issue Date 16-Nov-2020

Revision Date
10-Aug-2021

Version 1.3

Page 1 / 19

1. IDENTIFICATION

Product identifier

Product Name Chloride, Zero Solution

Other means of identification

Product Code(s) TNT879D

Safety data sheet number M03627

UN/ID no UN3316

Recommended use of the chemical and restrictions on use

Recommended Use Restricted to professional users. Water Analysis. Determination of chlorine.

Uses advised against Consumer use.

Restrictions on use Not determined.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1
Chronic aquatic toxicity	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H226 - Flammable liquid and vapor
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H331 - Toxic if inhaled
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements

P270 - Do not eat, drink or smoke when using this product
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P280 - Wear protective gloves, protective clothing, eye protection, and face protection
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
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P363 - Wash contaminated clothing before reuse
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor
P273 - Avoid release to the environment
P391 - Collect spillage
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P403 + P235 - Store in a well-ventilated place. Keep cool
P271 - Use only outdoors or in a well-ventilated area
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Other Hazards Known

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 3 / 19

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Methanol	67-56-1	40 - 50%	-
Nitric acid	7697-37-2	3 - 7%	-
Ferric nitrate nonahydrate	7782-61-8	<1%	-
Thiocyanic acid, mercury(2+) salt	592-85-8	<0.1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Immediate medical attention is required.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Note to physicians 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.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol resistant foam.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous combustion products	No information available.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
--------------------	--

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Attention! Corrosive material. Do not breathe vapor or mist.
-----------------------------	---

Other Information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
--------------------------	--

Environmental precautions

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.
----------------------------------	--

Methods and material for containment and cleaning up

Methods for containment	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
--------------------------------	---

Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.
--------------------------------	---

Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
--	--

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Do not breathe vapor or mist.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials. Store in accordance with particular national and local regulations.

Flammability class

Class IC

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Methanol CAS#: 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) SKN*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³
Nitric acid CAS#: 7697-37-2	STEL: 4 ppm TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m ³ (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m ³ (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m ³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³
Ferric nitrate nonahydrate CAS#: 7782-61-8	TWA: 1 mg/m ³ Fe	(vacated) TWA: 1 mg/m ³	TWA: 1 mg/m ³ Fe
Thiocyanic acid, mercury(2+) salt CAS#: 592-85-8	TWA: 0.025 mg/m ³ Hg S*	TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³ (vacated) Ceiling: 0.1 mg/m ³ *	IDLH: 10 mg/m ³ Hg IDLH: 25 mg/m ³ CN Ceiling: 0.1 mg/m ³ Hg TWA: 0.05 mg/m ³ except Organo alkyls Hg vapor

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

Eye/face protection Face protection shield.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

General Hygiene Considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe vapor or mist.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Color	beige red brown
Odor	Odorless	Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	0.5	@ 20 °C
Melting point/freezing point	No data available	
Boiling point / boiling range	65 °C / 149 °F	
Evaporation rate	No data available	
Vapor pressure	96.01 mm Hg / 12.8 kPa at 20 °C / 68 °F	
Relative vapor density	No data available	
Specific gravity (water = 1 / air = 1)	0.92	
Partition Coefficient (n-octanol/water)	No data available	
Soil Organic Carbon-Water Partition	No data available	

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 7 / 19

Coefficient

Autoignition temperature No data available

Decomposition temperature No information available

Dynamic viscosity No data available

Kinematic viscosity No data available

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	> 10000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate

No data available

Aluminum Corrosion Rate

No data available

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Methanol	67-56-1	100%	X
Nitric acid	7697-37-2	Not applicable	-
Ferric nitrate nonahydrate	7782-61-8	No data available	-
Thiocyanic acid, mercury(2+) salt	592-85-8	No data available	-

Explosive properties

Upper explosion limit

No data available

Lower explosion limit

No data available

Flammable properties

Flash point

= 24 °C / 75.2 °F

Method

Flammability Limit in Air

Upper flammability limit:

No data available

Lower flammability limit:

No data available

Oxidizing properties

No data available.

Bulk density

No data available

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 8 / 19

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Yes.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Heat, flames and sparks. Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Acids. Bases. Oxidizing agent.

Hazardous decomposition products

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation

Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Toxic by inhalation.

Eye contact

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

Toxic in contact with skin. Corrosive. Causes severe burns. Avoid contact with skin and clothing.

Ingestion

Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.

Acute toxicity

Toxic if swallowed

Toxic in contact with skin

Toxic if inhaled

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 9 / 19

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	None reported	None reported	None reported	None reported	No information available
Ferric nitrate nonahydrate (<1%) CAS#: 7782-61-8	Rat LD ₅₀	3250 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Thiocyanic acid, mercury(2+) salt (<0.1%) CAS#: 592-85-8	Rat LD ₅₀	46 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	None reported	None reported	None reported	None reported	No information available

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	None reported	None reported	None reported	None reported	No information available
Nitric acid (3 - 7%) CAS#: 7697-37-2	None reported	None reported	None reported	None reported	No information available
Thiocyanic acid, mercury(2+) salt (<0.1%) CAS#: 592-85-8	None reported	None reported	None reported	None reported	No information available

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	None reported	None reported	None reported	None reported	No information available
Thiocyanic acid, mercury(2+) salt (<0.1%) CAS#: 592-85-8	None reported	None reported	None reported	None reported	No information available

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 10 / 19

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	224.30 mg/kg
ATEmix (dermal)	673.00 mg/kg
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Causes severe burns.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method	Rabbit	None reported	20 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)
Nitric acid (3 - 7%) CAS#: 7697-37-2	Existing human experience	Human	None reported	None reported	Corrosive to skin	ERMA (New Zealand's Environmental Risk Management Authority)

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method	Rabbit	0.05 mL	24 hours	Not corrosive or irritating to eyes	ECHA (The European Chemicals Agency)
Nitric acid (3 - 7%) CAS#: 7697-37-2	Existing human experience	Human	None reported	None reported	Corrosive to eyes	ERMA (New Zealand's Environmental Risk Management Authority)

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 11 / 19

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA (The European Chemicals Agency)

STOT - single exposure

Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed. Causes damage to organs in contact with skin.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	Human LD _{Lo}	143 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (3 - 7%) CAS#: 7697-37-2	Rat TD _{Lo}	226500 mg/kg	None reported	Blood Methemoglobinemia-Carboxyhe moglobin	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	Human TC _{Lo}	300 mg/L	None reported	Lungs, Thorax, or Respiration Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)
Nitric acid (3 - 7%) CAS#: 7697-37-2	Rat TC _{Lo}	460 mg/L	1 hours	Nutritional and Gross Metabolic Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 12 / 19

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	Monkey	2340 mg/kg	3 days	None reported	ECHA (The European Chemicals Agency)

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (3 - 7%) CAS#: 7697-37-2	Rat TC _{Lo}	0.001071 mg/L	84 days	Behavioral Muscle contraction or spasticity Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (true cholinesterase) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS (Registry of Toxic Effects of Chemical Substances)

Carcinogenicity

Based on available data, the classification criteria are not met.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Methanol	67-56-1	-	-	-	-
Nitric acid	7697-37-2	-	Group 2A Group 1	-	X
Ferric nitrate nonahydrate	7782-61-8	-	Group 2A	-	X
Thiocyanic acid, mercury(2+) salt	592-85-8	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity *invitro* Data

No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol	DNA inhibition	Human	300 mmol/L	None	Positive test result for	RTECS (Registry

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 13 / 19

(40 - 50%) CAS#: 67-56-1		lymphocyte		reported	mutagenicity	of Toxic Effects of Chemical Substances)
-----------------------------	--	------------	--	----------	--------------	--

Product Germ Cell Mutagenicity *in vivo* Data

No data available.

Ingredient Germ Cell Mutagenicity *in vivo* Data

Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	DNA damage	Rat	0.405 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Reproductive toxicity

Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	Rat TD _{Lo}	4118 mg/kg	10 days	Effects on Embryo or Fetus Specific Developmental Abnormalities Ear Eye Fetotoxicity (except death e.g. stunted fetus) Urogenital System	RTECS (Registry of Toxic Effects of Chemical Substances)
Nitric acid (3 - 7%) CAS#: 7697-37-2	Rat TD _{Lo}	21150 mg/kg	21 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (40 - 50%) CAS#: 67-56-1	Rat TC _{Lo}	0.0026 mg/L	22 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 14 / 19

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Thiocyanic acid, mercury(2+) salt (<0.1%) CAS#: 592-85-8	96 hours	<i>Pimephales promelas</i>	LC ₅₀	0.15 mg/L	HSDB (Hazardous Substances Data Bank)

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Thiocyanic acid, mercury(2+) salt (<0.1%) CAS#: 592-85-8	48 Hours	<i>Daphnia magna</i>	EC ₅₀	0.0052 mg/L	Vendor SDS

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

There is no data for this product

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)

No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient

No data available

Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Thiocyanic acid, mercury(2+) salt (<0.1%) CAS#: 592-85-8	Group III Chemical	-	-

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 15 / 19

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

US EPA Waste Number D001, D002, D009, 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

14. TRANSPORT INFORMATION

DOT

UN/ID no UN3316
Proper shipping name CHEMICAL KIT
Transport hazard class(es) 9
Description UN3316, CHEMICAL KIT, 9, Marine pollutant
Emergency Response Guide Number 171

TDG

UN/ID no UN3316
Proper shipping name CHEMICAL KIT
Transport hazard class(es) 9
Description UN3316, CHEMICAL KIT, 9

IATA

UN number or ID number UN3316
Proper shipping name Chemical kit
Transport hazard class(es) 9
Packing group II
ERG Code 9L
Special precautions for user A163, A44
Description UN3316, Chemical kit, 9

IMDG

UN number or ID number UN3316
Proper shipping name CHEMICAL KIT
Transport hazard class(es) 9
EmS-No F-A, S-P
Special precautions for user 251, 340
Description UN3316, CHEMICAL KIT, 9, (24°C C.C.), Marine pollutant

Additional information

This product forms part of a kit. Information in this section relates to the kit as a whole.

15. REGULATORY INFORMATION

National Inventories

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 16 / 19

TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL - Existing substances Complies
PICCS Complies
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US 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	SARA 313 - Threshold Values %
Methanol (CAS #: 67-56-1)	1.0
Nitric acid (CAS #: 7697-37-2)	1.0
Ferric nitrate nonahydrate (CAS #: 7782-61-8)	1.0
Thiocyanic acid, mercury(2+) salt (CAS #: 592-85-8)	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard Yes
Sudden release of pressure hazard No
Reactive Hazard No

CWA (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
Nitric acid 7697-37-2	1000 lb	-	-	X
Thiocyanic acid, mercury(2+) salt 592-85-8	10 lb	X	X	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

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 17 / 19

pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methanol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Thiocyanic acid, mercury(2+) salt 592-85-8	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

Chemical name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Nitric acid (3 - 7%) CAS#: 7697-37-2	Release - Toxic; Theft - Explosives/Improvised Explosive Device Precursors

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Methanol (CAS #: 67-56-1)	Developmental
Thiocyanic acid, mercury(2+) salt (CAS #: 592-85-8)	Developmental



WARNING: This product can expose you to chemicals including Thiocyanic acid, mercury(2+) salt, Methanol, which are known to the State of California to cause birth defects or other reproductive harm.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Contains Mercury Dispose of in accordance with local, state and federal regulations or laws.

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Methanol 67-56-1	X	X	X
Nitric acid 7697-37-2	X	X	X
Ferric nitrate nonahydrate 7782-61-8	X	-	X
Thiocyanic acid, mercury(2+) salt 592-85-8	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Methanol	180.0910	-

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 18 / 19

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thresholds
Methanol 67-56-1	Declarable Substance (FI) Prohibited Substance (FI) Declarable Substance (LR) Prohibited Substance (LR)	0.6 % 0.1 %
Thiocyanic acid, mercury(2+) salt 592-85-8	Declarable Substance (LR) Prohibited Substance (LR)	0 % 0.1 %

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 3	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 3 - *	Flammability - 3	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH *Immediately Dangerous to Life or Health*
ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)
NDF *no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 16-Nov-2020

Revision Date 10-Aug-2021

Revision Note None

Disclaimer

Product Code(s) TNT879D
Issue Date 16-Nov-2020
Version 1.3

Product Name Chloride, Zero Solution
Revision Date 10-Aug-2021
Page 19 / 19

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.

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.

HACH COMPANY©2021

End of Safety Data Sheet