

## SAFETY DATA SHEET

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#### **1. IDENTIFICATION**

<u>Product identifier</u> Product Name	Standard 2 Ammonia/Monochloramine 2.0 mg/L NH3-N		
Other means of identification Product Code(s)	2776753		
Safety data sheet number	M01485		

# Recommended use of the chemical and restrictions on useRecommended UseDetermination of nitrate.Uses advised againstNone.Restrictions on useNone.

#### 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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Chronic aquatic toxicity

Category 3

#### Hazards not otherwise classified (HNOC) Not applicable

#### Label elements

Signal word None

#### Hazard statements

The product contains no substances which at their given concentration, are considered to be hazardous to health

H412 - Harmful to aquatic life with long lasting effects

#### **Precautionary statements**

P273 - Avoid release to the environment

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

## Other Hazards Known

Harmful to aquatic life

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance Not applicable

## Mixture

Range	HMRIC #
<0.01%	-
<0.01%	-
-	<0.01%

## 4. FIRST AID MEASURES

#### **Description of first aid measures**

General advice	No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.	
Inhalation	Remove to fresh air.	
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.	
Skin contact	Wash skin with soap and water.	
Ingestion	Clean mouth with water and drink afterwards plenty of water.	
Most important symptoms and effects, both acute and delayed		
Symptoms	See Section 11 for additional Toxicological Information.	
Indication of any immediate medical attention and special treatment needed		
Note to physicians	Treat symptomatically.	

## 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	This material will not burn.
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

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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 ec	quipment and emergency procedures
Personal precautions	Ensure adequate ventilation.
Environmental precautions	
Environmental precautions	See Section 12 for additional ecological information.
Methods and material for containm	ent and cleaning up
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.
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	Handle in accordance with good industrial hygiene and safety practice.			
Conditions for safe storage, including any incompatibilities				
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.			
Flammability class	Not applicable			

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

#### **Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Sulfuric acid, copper(2+) salt (1:1)	TWA: 1 mg/m <sup>3</sup> Cu dust and	NDF	IDLH: 100 mg/m <sup>3</sup> Cu dust and
CAS#: 7758-98-7	mist		mist
			TWA: 1 mg/m <sup>3</sup> Cu dust and
			mist
Ammonium chloride	STEL: 20 mg/m <sup>3</sup> fume	(vacated) TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> fume
CAS#: 12125-02-9	TWA: 10 mg/m <sup>3</sup> fume	(vacated) STEL: 20 mg/m <sup>3</sup>	STEL: 20 mg/m <sup>3</sup> fume
Appropriate engineering controls			
Engineering Controls	Showers		
	Everyage stations		

Eyewash stations Ventilation systems.

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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.	
Eye/face protection	Wear safety glasses with side shields (or goggles).	
Skin and body protection	No special protective equipment required.	
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.	
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 Appearance Odor	aqueous solution None	Liquid		Color Odor threshold	colorless No data available
Property_			Values		Remarks • Method
Molecular weight	:		No data availal	ble	
рН			No data availal	ble	
Melting point/free	ezing point		~ 0 °C / 32	2°F	
Boiling point / bo	iling range		~ 100 °C /	212 °F	
Evaporation rate			1 (water = 1)		
Vapor pressure			23.777 mm Hg	/ 3.17 kPa at 2	5 °C / 77 °F
Relative vapor de	ensity		0.03		
Specific gravity (	water = 1 / air = 1)		0.99		
Partition Coeffici	ent (n-octanol/wate	er)	Not applicable		
Soil Organic Carl Coefficient	oon-Water Partition	1	Not applicable		
Autoignition tem	perature		No data availal	ble	
Decomposition te	emperature		No data availal	ble	
Dynamic viscosit	су.		No data availal	ble	
Kinematic viscos	ity		No data availal	ble	
Solubility(ies)					
Water solubility					

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Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	No data available	25 °C / 77 °F

#### Solubility in other solvents

Chemical Name	Solubility classification	<u>Solubility</u>	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

#### **Other information**

#### Metal Corrosivity

Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available

#### Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfuric acid, copper(2+) salt (1:1)	7758-98-7	No data available	-
Ammonium chloride	12125-02-9	No data available	-

#### **Explosive properties**

Upper explosion limit Lower explosion limit	No data available No data available
Flammable properties	
Flash point	No data available
Flammability Limit in Air Upper flammability limit: Lower flammability limit:	No data available No data available
Oxidizing properties	No data available.
Bulk density	No data available

## **10. STABILITY AND REACTIVITY**

#### Reactivity Not applicable.

<u>Chemical stability</u> Stable under normal conditions.

#### Explosion data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions None under normal processing.

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#### Hazardous polymerization

None under normal processing.

#### Conditions to avoid

None known based on information supplied.

#### Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

#### Hazardous decomposition products

None known based on information supplied.

#### **11. TOXICOLOGICAL INFORMATION**

#### Information on likely routes of exposure

## Product Information

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.
Symptoms	No information available.

#### Acute toxicity

Based on available data, the classification criteria are not met

## Product Acute Toxicity Data

No data available.

## Ingredient Acute Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	Rat LD₅₀	300 mg/kg	None reported	None reported	ERMA (New Zealands Environmental Risk Management Authority)
Ammonium chloride (<0.01%) CAS#: 12125-02-9	Rat LD₅₀	1650 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	Rabbit LD₅₀	> 1000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

#### Unknown Acute Toxicity

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

#### Acute Toxicity Estimations (ATE)

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ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

#### Skin corrosion/irritation

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

#### **Product Skin Corrosion/Irritation Data**

No data available.

#### Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	Standard Draize Test	Rabbit	500 mg	4 hours	Skin irritant	ECHA (The European Chemicals Agency)
Ammonium chloride (<0.01%) CAS#: 12125-02-9	Existing human experience	Human	None reported	None reported	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Serious eye damage/irritation

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

#### Product Serious Eye Damage/Eye Irritation Data

No data available.

#### Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	None reported	None reported	None reported	None reported	Eye irritant	ECHA (The European Chemicals Agency)

#### **Respiratory or skin sensitization**

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

#### **Product Sensitization Data**

No data available.

#### Ingredient Sensitization Data

No data available.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Ammonium chloride (<0.01%) CAS#: 12125-02-9	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

#### STOT - single exposure

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

#### Product Specific Target Organ Toxicity Single Exposure Data

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No data available.

## Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride (<0.01%) CAS#: 12125-02-9	Domestic mammal - Not specified LDLo	1500 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

#### STOT - repeated exposure

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

#### Product Specific Target Organ Toxicity Repeat Dose Data No data available.

## Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride (<0.01%) CAS#: 12125-02-9	Rat TD⊾	3500 mg/kg	7 days	No toxicological effects observed	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
Sulfuric acid, copper(2+)	7758-98-7	-	-	-	-
salt (1:1)					
Ammonium chloride	12125-02-9	-	-	-	-

#### 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	Does not apply
Labor)	

#### 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

No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data

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Sulfuric acid,	DNA inhibition	Human	0.076 mmol/L	None	Positive test result for	RTECS (Registry
copper(2+) salt (1:1)		lymphocyte		reported	mutagenicity	of Toxic Effects of
(<0.01%)						Chemical
CAS#: 7758-98-7						Substances)
Ammonium chloride	OECD 471	Salmonella	5 mg/plate	72 hours	Negative test result	RTECS (Registry
(<0.01%)		typhimurium			for mutagenicity	of Toxic Effects of
CAS#: 12125-02-9						Chemical
						Substances)

## Product Germ Cell Mutagenicity invivo Data

No data available.

## Ingredient Germ Cell Mutagenicity invivo Data

No data available.

#### Reproductive toxicity

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

#### **Product Reproductive Toxicity Data**

No data available.

#### Ingredient Reproductive Toxicity Data

No data available.

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
	type	dose	time		sources for data
Ammonium chloride (<0.01%) CAS#: 12125-02-9	Rat NOAEL	1500 mg/kg	16 days	None reported	ECHA (The European Chemicals Agency)

#### Aspiration hazard

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

## **12. ECOLOGICAL INFORMATION**

Ecotoxicity

Harmful to aquatic life with long lasting effects.

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

No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	96 hours	Pimephales promelas	LC <sub>50</sub>	0.0028 mg/L	Vendor SDS
Ammonium chloride (<0.01%)	96 hours	Oncorhynchus mykiss	LC <sub>50</sub>	42.91 mg/L	ECHA (The European Chemicals Agency)

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CAS#: 12125-02-9					
Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
	time		type	dose	sources for data
Sulfuric acid,	48 Hours	Daphnia magna	EC <sub>50</sub>	0.0014 mg/L	Vendor SDS
copper(2+) salt (1:1)				-	
(<0.01%)					
CAS#: 7758-98-7					
Ammonium chloride	48 Hours	Daphnia magna	LC <sub>50</sub>	161 mg/L	IUCLID (The International
(<0.01%)				-	Uniform Chemical Information
CAS#: 12125-02-9					Database)
Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
	time		type	dose	sources for data
Sulfuric acid,	72 Hours	Thalassiosira pseudonana	EC <sub>50</sub>	0.005 mg/L	ERMA (New Zealands
copper(2+) salt (1:1)				-	Environmental Risk Management
(<0.01%)					Authority)
CAS#: 7758-98-7					

## **Aquatic Chronic Toxicity**

No data available.

#### Persistence and degradability

#### **Product Biodegradability Data** No data available.

**Product Bioaccumulation Data** No data available.

Partition Coefficient (n-octanol/water)

**Mobility** 

Soil Organic Carbon-Water Partition Coefficient

#### Other adverse effects No information available

## **13. DISPOSAL CONSIDERATIONS**

Waste treatment methods	
Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.
Special instructions for disposal	Open cold water tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system.

14. TRANSPORT INFORMATION			
DOT	Not regulated		
<u>TDG</u>	Not regulated		
IATA	Not regulated		

EN / AGHS

Not applicable

Not applicable

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IMDG

Not regulated

#### Note:

No special precautions necessary.

#### Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies. If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III. If the item is not regulated, the Chemical Kit classification does not apply.

#### **15. REGULATORY INFORMATION**

National Inventories	
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 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	SARA 313 - Threshold Values %
Sulfuric acid, copper(2+) salt (1:1) (CAS #: 7758-98-7)	1.0
Ammonium chloride (CAS #: 12125-02-9)	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

#### CWA (Clean Water Act)

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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)

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Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid, copper(2+) salt (1:1) 7758-98-7	10 lb	Х	-	Х
Ammonium chloride 12125-02-9	5000 lb	-	-	Х

#### **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	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sulfuric acid, copper(2+) salt	10 lb	-	RQ 10 lb final RQ
(1:1)			RQ 4.54 kg final RQ
7758-98-7			-
Ammonium chloride	5000 lb	-	RQ 5000 lb final RQ
12125-02-9			RQ 2270 kg final RQ

## US State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals

#### U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid, copper(2+) salt	X	X	Х
(1:1)			
7758-98-7			
Ammonium chloride	X	X	Х
12125-02-9			

#### **U.S. EPA Label Information**

Chemical name	FIFRA	FDA	
Sulfuric acid, copper(2+) salt (1:1)	-	21 CFR 184.1261	
Ammonium chloride	180.0920	21 CFR 184.1138	

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

#### **Special Comments** None

#### Additional information

#### Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Sulfuric acid, copper(2+) salt (1:1)	Declarable Substance (LR)	0 %
7758-98-7	Prohibited Substance (LR)	
NEPA and HMIS Classifications	· · · ·	

NFPA and HMIS Classifications

NFPA	Health h	azards - 0	Flammability - 0	Instability - 0	Physical and chemical properties -	
HMIS	Health h	azards - 0	Flammability - 0	Physical hazards - 0	Personal protection - X - I	
Key or legend to abbreviations and acronyms used in the safety data sheet						
NIOSH IDLHImmediately Dangerous to Life or HealthACGIHACGIH (American Conference of Governmental Industrial Hygienists)NDFno data						
Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION						
TWA	TWA (time-weighted average)		STEL	STEL (Short Term	STEL (Short Term Exposure Limit)	
MAC	Maximum Allowable Concentration		on Ceiling	Ceiling Limit Value	Ceiling Limit Value	
х	Listed		Vacated	binding levels of co listed in the final OS for reference purpo some reference sta	no official status. The only ntaminants are those SHA PEL. These lists are ses only. Please note that te regulations of these e limits in their state	
SKN* RSP+ C M	Skin designation Respiratory sensitization Carcinogen		SKN+ ** R		Skin sensitization Hazard Designation Reproductive toxicant	
Prepared By	mutagen		t Compliance Department			
		Hach Product Compliance Department				
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Revision Note		None				

**Disclaimer** 

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.

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End of Safety Data Sheet