SAFETY DATA SHEET

Preparation Date: 10/6/2016 **Revision Date:** Not Applicable **Revision Number:** Not Applicable

1. IDENTIFICATION

Product identifier

Product code: A2164
Product Name: ACRYLIC ACID

Other means of identification
Synonyms: Acroleic acid
Acrylic acid, glacial
Ethylenecarboxylic acid
Glacial acrylic acid
RCRA waste number U008
Vinylformic acid
Acrylic acid (ACGIH)
Propene acid
Propenoic acid
2-Propenoic acid (9CI)

CAS #: 79-10-7
RTECS # AS4375000
CI#: Not available

Recommended use of the chemical and restrictions on use
Recommended use: For manufacturing or laboratory use only.
Uses advised against Not for food or drug use.

Supplier: Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000.
Order Online At: https://www.spectrumchemical.com
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

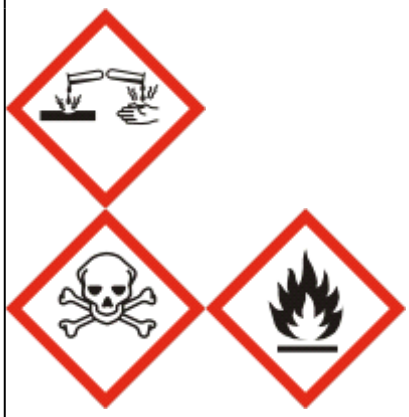
Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 3

Label elements

Danger

Hazard statements
Toxic in contact with skin
Harmful if inhaled
Harmful if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation
Flammable liquid and vapor



Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Very toxic to aquatic life with long lasting effects
Very toxic to aquatic life
May violently polymerize

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/ .? /equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IN CASE OF FIRE: Use dry chemical, water spray, alcohol-resistant foam or CO2 to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Call a POISON CENTER or doctor/physician if you feel unwell
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Store in a well-ventilated place. Keep container tightly closed
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Acrylic Acid	79-10-7	100

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately. Toxic in contact with skin.

Eye Contact: Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms Severe skin and eye irritation or burns. Causes severe skin burns and eye damage. Burning sensation in the mouth and stomach. Can burn mouth, throat, and stomach. Toxic in contact with skin. Harmful if swallowed or if inhaled. Irritating to respiratory system. May cause digestive (gastrointestinal) tract irritation. May cause perforation of the digestive tract. May cause irritation of respiratory tract.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO2). Water spray, mist, or foam.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Oxides.

Specific hazards: Flammable
May be ignited by heat, sparks or flames
Container explosion may occur under fire conditions or when heated
Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks)

Special Protective Actions for Firefighters

Specific Methods: For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. All equipment used when handling the product must be grounded. Remove all sources of ignition. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Keep away from sources of ignition - no smoking. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Protect from moisture. Air sensitive. Protect from light. Sensitive to light. Store in light-resistant containers. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:
Strong oxidizing agents
Strong bases
Oxygen
Peroxides
Polymerization initiators/accelerators
Amines
Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Acrylic Acid	79-10-7	None	2 ppm TWA 6 mg/m³ TWA	2 ppm TWA	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Acrylic Acid	79-10-7	2 ppm TWA 5.9 mg/m³ TWA	2 ppm TWA	2 ppm TWA	2 ppm TWAEV 5.9 mg/m³ TWAEV

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Acrylic Acid	79-10-7	2 ppm TWA 5.9 mg/m³ TWA	None

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles or Face-shield

Skin and body protection: Gloves. Long sleeved clothing. Chemical resistant apron.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
Clear.

Color:
Colorless.

Odor:
Stench.

Taste
No information available.

Formula:
C3H4O2

Molecular/Formula weight:
72.06

Flammability:
Flammable

Flashpoint (°C/°F):
46° - 50°C (114.8° - 122°F)

Flash Point Tested according to:
Closed cup

Autoignition Temperature (°C/°F):
438°C (820.4°F)

Lower Explosion Limit (%):
2% (V)

Upper Explosion Limit (%):
13.7% (V)

Melting point/range(°C/°F):
13°C (55°F)

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
139°C (282°F)

Bulk density:
No information available

Density (g/cm3):
1.051

Specific gravity:
1.05

pH:
1.0 - 2.0

Vapor pressure @ 20°C (kPa):
0.53

Evaporation rate:
No information available

Vapor density:
2.5 (Air = 1.0)

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

Partition coefficient (n-octanol/water):
log Pow = 0.46

Viscosity:
No information available

Miscibility:
Miscible with water
Miscible with Ether
Miscible with alcohol

Solubility:
Completely soluble in water
Soluble in Ethanol
Soluble in Acetone
Soluble in Chloroform

10. STABILITY AND REACTIVITY

Reactivity
Reactive with oxidizing agents
Reactive with acids
Reactive with amines and alkali metals

Chemical stability

Stability: Sensitive to light. Sensitive to air. Moisture Sensitive. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization may occur.

Conditions to avoid: Exposure to light. Exposure to air. Exposure to moisture. Heat. Ignition sources. Incompatible materials.

Incompatible Materials:
Strong oxidizing agents
Strong bases
Oxygen
Peroxides
Polymerization initiators/accelerators

Amines
Acids

Hazardous decomposition products: Carbon oxides.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Eyes. Ingestion. Inhalation.

Acute Toxicity

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

Acrylic Acid	
CAS-No.	79-10-7

LD50/oral/rat = 193 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = 295 mg/kg Dermal LD50 = 3.6 mg/L Inhalation LC50 = 11.1 mg/L Inhalation LC50 = 193 mg/kg Oral LD50
LC50/inhalation/rat = 5300 mg/m^3 Inhalation LC50 Rat 2 h
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 193 mg/kg Oral LD50 Rat

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = 295 mg/kg Dermal LD50 = 3.6 mg/L Inhalation LC50 = 11.1 mg/L Inhalation LC50 = 193 mg/kg Oral LD50

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = 5300 mg/m^3 Inhalation LC50 Rat 2 h
VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Corrosive. Contact causes severe skin irritation and possible burns. Can cause burning pain, inflammation and blisters. Toxic in contact with skin.

Eye Contact: Corrosive to the eyes and may cause severe damage including blindness. Causes severe eye irritation and possible burns. Can cause severe injury.

Inhalation Irritating to respiratory system. Harmful by inhalation. Material is destructive to the tissue of the mucous membrane and upper respiratory tract. It may cause pulmonary edema.

Ingestion Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. Causes digestive or gastrointestinal tract burns. May cause perforation of the digestive tract. Corrosive to the mouth, throat, and stomach. Symptoms may include a burning sensation in the mouth, throat, and stomach. Ingestion may cause nausea, vomiting.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available.

Sensitization: No information available.

Mutagenic Effects: Experiments with animal lymphocytes have shown mutagenic effects
Mutagenic effects in mammalian somatic cells

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Acrylic Acid	79-10-7	Monograph 71 [1999] Monograph 19 [1979]	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: Experiments have shown reproductive toxicity effects on laboratory animals
Developmental Effects: May cause adverse developmental effects based on animal data
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure Respiratory system.
STOT - repeated exposure No information available.
Target Organs: Liver.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Acrylic Acid - 79-10-7

Freshwater Algae Data: 0.17 mg/L EC50 Pseudokirchneriella subcapitata 96 h 0.04 mg/L EC50 Desmodesmus subspicatus 72 h

Freshwater Fish Species Data: 222 mg/L LC50 Brachydanio rerio 96 h semi-static 1

Water Flea Data: 95 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

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

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Acrylic Acid	79-10-7	None	None	None	U008 Ignitable waste

14. TRANSPORT INFORMATION

DOT

UN-No: UN2218
Proper Shipping Name: Acrylic acid, stabilized
Hazard Class: 8
Subsidiary Class 3
Packing group: II
Emergency Response Guide Number 132P
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions B2, IB2, T7, TP2
Symbol(s): No information available
Description: UN2218, Acrylic acid, stabilized, 8 (3), II

TDG (Canada)

UN-No: UN2218
Proper Shipping Name: Acrylic acid, stabilized
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No Information available
Description: UN2218, Acrylic acid, stabilized, 8 (3), II

ADR

UN-No:	UN2218
Proper Shipping Name:	Acrylic acid, stabilized
Hazard Class:	8
Packing Group:	II
Subsidiary Risk:	No information available
Description:	UN2218, Acrylic acid, stabilized, 8 (3), II, ENVIRONMENTALLY HAZARDOUS

IMO / IMDG

UN-No:	UN2218
Proper Shipping Name:	Acrylic acid, stabilized
Hazard Class:	8
Subsidiary Risk:	No information available
Packing Group:	II
Marine Pollutant	No information available
EMS:	F-E
Description	UN2218, Acrylic acid, stabilized, 8 (3), II, Marine pollutant

RID

UN-No:	UN2218
Proper Shipping Name:	Acrylic acid, stabilized
Hazard Class:	8
Subsidiary Risk:	No information available
Packing Group:	II
Description:	UN2218, Acrylic acid, stabilized, 8 (3), II, ENVIRONMENTALLY HAZARDOUS

ICAO

UN-No:	UN2218
Proper Shipping Name:	Acrylic acid, stabilized
Hazard Class:	8
Subsidiary Risk:	No information available
Packing Group:	II
Description:	UN2218, Acrylic acid, stabilized, 8 (3), II

IATA

UN-No:	UN2218
Proper Shipping Name:	Acrylic acid, stabilized
Hazard Class:	8
Subsidiary Risk:	No information available
Packing Group:	II
ERG Code:	8F
Special Provisions	No information available
Description:	UN2218, Acrylic acid, stabilized, 8 (3), II

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Acrylic Acid	79-10-7	Present	Present KE-29442	Present	Present (2)-984	Present	Present	Present 201-177-9

U.S. Regulations

Acrylic Acid

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0023
New Jersey (EHS) List: 0023 500 lb TPQ

New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
5000 lb RQ
100 lb RQ
Louisana Reportable Quantity List for Pollutants: 5000lbfinal RQ
2270kgfinal RQ
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	**Carcinogen**	**Developmental Toxicity**	**Male Reproductive Toxicity**	**Female Reproductive Toxicity:**
Acrylic Acid	79-10-7	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	**CERCLA - Hazardous Substances and their Reportable Quantities**	**Section 302 Extremely Hazardous Substances and TPQs**	**Section 302 Extremely Hazardous Substances and RQs**	**Section 313 - Chemical Category**	**Section 313 - Reporting de minimis**
Acrylic Acid	79-10-7	5000 lb final RQ 2270 kg final RQ	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	CAS-No.	**TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)**	**TSCA 8(d) -Health and Safety Reporting**
Acrylic Acid	79-10-7	Not Applicable	Not Applicable

Canada

WHMIS hazard class:
B3 Combustible liquid
D1B Toxic materials
D2B Toxic materials
E Corrosive material

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	**WHMIS Ingredient Disclosure List -**
Acrylic Acid	1 %

Inventory

Components	CAS-No.	**Canada (DSL)**	**Canada (NDSL)**
Acrylic Acid	79-10-7	Present	Not Listed

Components	CAS-No.	**CEPA Schedule I - Toxic Substances**
Acrylic Acid	79-10-7	Not listed
Components	CAS-No.	**CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting**
Acrylic Acid	79-10-7	Not listed

EU Classification

R-phrase(s)

R10 - Flammable.
R35 - Causes severe burns.
R36 - Irritating to eyes.
R50 - Very toxic to aquatic organisms.
R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

S -phrase(s)

S24 - Avoid contact with skin.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36 - Wear suitable protective clothing.
S37 - Wear suitable gloves.
S39 - Wear eye/face protection.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

Components	CAS-No.	**Classification**	**Concentration Limits:**	**Safety Phrases**
Acrylic Acid	79-10-7	R10 Xn; R20/21/22 C; R35 N; R50	10%<=C C; R35 5%<=C<10% C; R34 1%<=C<5% Xi; R36/37/38	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive.
Xn - Harmful.
N - Dangerous for the environment.

16. OTHER INFORMATION

Preparation Date: 10/6/2016
Revision Date: Not Applicable
Prepared by: Roumann Pangilinan

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on

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End of Safety Data Sheet