



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : Acryloyl chloride, 2-Propenoyl chloride.; Acrylic acid chloride
Cat No.: L10363
CAS No. : 814-68-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended uses : Laboratory chemicals.
Uses advised against: Food, drug, pesticide or biocidal product use.

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Ltd.
B/503, Shayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.
Telephone : +91-22-6123 0222
Email : exports@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-8657457330

SECTION 2: Hazards identification

2.1 Classification

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

Skin Corrosion/Irritation	(Category 1 B)
Serious Eye Damage/Eye Irritation	(Category 1)
Flammable liquids	(Category 2)
Acute oral toxicity	(Category 4)
Acute Inhalation Toxicity - Vapors	(Category 1)
Specific target organ toxicity (single exposure)	(Category 3)

2.2 Label elements

Pictogram :



Corrosive to metals

Signal word

Danger

Hazard statement (s)

Highly flammable liquid and vapor
Harmful if swallowed
Causes severe skin burns and eye damage



Precautionary statement (s)

Prevention

May cause respiratory irritation
Fatal if inhaled.

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

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

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wear protective gloves/protective clothing/eye protection/face protection

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

RESPONSE:

Immediately call a POISON CENTER or doctor/physician

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

IF INHALED:

Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF ON SKIN (or hair):

Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

Ingestion

Rinse mouth. DO NOT induce vomiting

Storage:

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

Disposal:

Dispose of contents/container to an approved waste disposal plant



Hazards not otherwise classified (HNOC)

Reacts violently with water

Other hazards

Stench

SECTION 3: Composition / information on ingredients

Component	CAS-No	Weight %
Acryloyl chloride	814-68-6	<= 100
Phenothiazine	92-84-2	<= 0.1

SECTION 4: First aid measures

4.1 Description of first aid measures

General Advice:

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

If inhalation :

Remove to fresh air. Immediate medical attention is required. 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 not breathing, give artificial respiration.

In case of skin contact :

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

In case of eye contact :

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion :

Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects :

Causes burns by all exposure routes. Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

4.3 Notes to Physician :

Treat symptomatically

SECTION 5: Firefighting effects

5.1 Extinguishing media



Suitable extinguishing media :	CO 2, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media: :	No information available

5.2 Flash Point :	-4 °C / 24.8 °F
Method :	No information available
Autoignition Temperature:	No information available
Explosion Limits:	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical :	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Reacts violently with water. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.
Hazardous Combustion Products :	Carbon monoxide (CO). Carbon dioxide (CO2). Hydrogen chloride.

5.4 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. Thermal decomposition can lead to release of irritating gases and vapors.			
NFPA:	Health	Flammability	Instability	Physical hazards
	4	3	2	W

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.
6.2 Environmental precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.



6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Do not expose spill to water. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water. Handle under an inert atmosphere. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

7.2 Conditions for safe storage

Corrosives area. Keep away from heat, sparks and flame. Store under an inert atmosphere. Protect from moisture. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water or moist air.

SECTION 8: Exposure controls/personal protection

8.1 Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Phenothiazine	TWA: 5 mg/m ³ Skin	(Vacated) TWA: 5 mg/m ³ Skin	TWA: 5mg/m ³	TWA: 5mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

8.2 Exposure controls

Personal protective equipment -

Eye / Face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard



EN166.

Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Clear, Form: Liquid
b) Odour	Acrid
c) Odour Threshold	No data available
d) pH	No information available
e) Melting point / freezing point	No data available
f) Initial boiling point and boiling range	74 - 76 °C / 165.2 - 168.8 °F
g) Flash point	-4 °C / 24.8 °F
h) Evaporation rate	No data available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	3.12
m) Specific Gravity	1.114
n) Solubility	Reacts violently with water
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available



s) Molecular formula	C3H3ClO
t) Molecular Weight	90.51

SECTION 10: Stability and Reactivity

10.1	Reactive Hazard :	Yes
10.2	Chemical stability :	Stable under recommended storage conditions. UNSTABLE (REACTIVE) UPON DEPLETION OF INHIBITOR.
10.3	Possibility of hazardous reactions :	None under normal processing. Reacts violently with water.
10.4	Conditions to avoid :	Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water. Exposure to light. Heat. Exposure to moisture.
10.5	Incompatible materials:	Bases, Water, Amines, Oxidizing agent
10.6	Hazardous decomposition products :	Carbon monoxide (CO), Carbon dioxide (CO ₂), Hydrogen chloride
10.7	Hazardous Polymerization	Hazardous polymerization does not occur.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phenothiazine	LD50 = 5000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	>5 mg/L/4h (Rat)

Toxicologically Synergistic Products No information available

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

Irritation : No information available

Sensitization: No information available

Carcinogenicity : The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Acryloyl chloride	814-68-6	Not listed	Not listed	Not listed	Not listed	Not listed
Phenothiazine	92-84-2	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects: No information available.



Reproductive Effects:	No information available.
Developmental Effects :	No information available.
Teratogenicity:	No information available.
STOT - single exposure :	Respiratory system
STOT - repeated exposure:	None known
Aspiration hazard :	No information available
Symptoms / effects,both acute and delayed:	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Endocrine Disruptor Information :	No information available
Other Adverse Effects :	The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1

Ecotoxicity

Reacts with water so no ecotoxicity data for the substance is available

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Phenothiazine	Not listed	LC50: = 1.1 mg/L, 48h (Oryzias latipes) LC50: = 0.579 mg/L, 96h (Oncorhynchus mykiss)	Not listed	EC50:0.154mg/L, 48h (Daphnia)

Persistence and Degradability Persistence is unlikely based on information available

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
Phenothiazine	4.24



SECTION 13: Disposal considerations

13.1 Waste treatment methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

14.1 UN number : ADR/RID: 3383
IMDG: 3383
IATA: 3383

14.2 UN proper shipping name

ADR/RID : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.

IMDG : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.

IATA : TOXIC BY INHALATION LIQUID, FLAMMABLE, N.O.S.

14.3 Transport hazard class(es) ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

Subsidiary Hazard Class(es) ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group: ADR/RID: I IMDG: I IATA: I

SECTION 15: Regulatory information

15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
Acryloyl chloride	814-68-6	X	ACTIVE	-
Phenothiazine	92-84-2	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) -Notices of Export:- Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Acryloyl	814-68-6	-	X	212-399-	X	X	X	X	KE-



chloride				0					23585
Phenothiazine	92-84-2	X	-	202-196-5	X	X	X	X	KE-28250

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Acryloyl chloride	-	TQ: 250 lb

CERCLA Not applicable

Component	Hazardous Substances RQs	CERCLA EHS RQs
Acryloyl chloride	-	100 lb

California Proposition 65 This product does not contain any Proposition 65 chemicals.

15.2 U.S. State Right-to-Know Regulations:

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acryloyl chloride	X	X	X	-	-
Phenothiazine	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security - This product does not contains the following DHS Chemicals. **placarded** **Legend** - STQs = Screening Threshold Quantities, APA = A



Amount.

Component	DHS Chemical Facility Anti-Terrorism Standard
Acryloyl chloride	Release STQs - 10000lb

Other International Regulations

Mexico – Grade

No information available.

SECTION 16: Other information

16.1 Prepared By:	Krishna Solvechem Limited
Email:	exports@kscl.co.in
Revision Date:	14-Feb-2023
Print Date:	14-Feb-2023
Revision Summary:	SDS authoring systems update, replaces ChemGes SDS No. 814 -68-6/1.

16.2 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