



**KSCL**

## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification

#### 1.1 Product identifiers

**Product Name :** Butyryl chloride; Butanoyl chloride; Butyric acid chloride  
**Cat No.:** AC149210000; AC149210010; AC149210500; AC149212500  
**CAS No. :** 141-75-3

#### 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 :** atul@kscl.co.in

#### 1.4 Emergency telephone number

**Emergency Phone :** +91-22-6123 0222 (10.00am - 7.00pm) [Office hours]

### SECTION 2: Hazards identification

#### 2.1 Classification

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

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

#### 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



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### Precautionary statement (s)

#### Prevention

Toxic if inhaled

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

#### 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

IF SWALLOWED: Rinse mouth.

DO NOT induce vomiting

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage:

Store locked up

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

#### Disposal:

Dispose of contents/container to an approved waste disposal



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	plant
<b>Hazards not otherwise classified (HNOC)</b>	Lachrymator (substance which increases the flow of tears)
<b>Other hazards</b>	Stench.

### SECTION 3: Composition / information on ingredients

Component	CAS-No	Weight %
Butyryl chloride	141-75-3	>95

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>General advice :</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>If inhalation :</b>	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. Remove to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>In case of skin contact :</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>In case of eye contact :</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion :</b>	Do NOT induce vomiting. Call a physician or poison control center immediately
<b>4.2 Most important symptoms and effects :</b>	Difficulty in breathing. Causes burns by all exposure routes. 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
<b>4.3 Notes to Physician :</b>	Treat symptomatically

### SECTION 5: Firefigh effects



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<b>5.1 Extinguishing media</b>			
<b>Suitable extinguishing media :</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.		
<b>Unsuitable Extinguishing Media: :</b>	Water		
<b>5.2 Flash Point :</b>	18 °C / 64.4 °F		
<b>Method :</b>	No information available		
<b>Autoignition Temperature:</b>	280 °C / 536 °F		
<b>Explosion Limits:</b>			
<b>Upper</b>	No data available		
<b>Lower</b>	No data available		
<b>Sensitivity to Mechanical Impact</b>	No information available		
<b>Sensitivity to Static Discharge</b>	No information available		
<b>Specific Hazards Arising from the Chemical :</b>	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.		
<b>Hazardous Combustion Products :</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Thermal decomposition can lead to release of irritating gases and vapors. Hydrogen chloride gas.		
<b>5.4 Protective Equipment and Precautions for Firefighters:</b>	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		
<b><u>NFPA:</u></b>	<b>Health</b>	<b>Flammability</b>	<b>Instability</b>
	3	3	1
			<b>Physical hazards</b>
			N/A

## SECTION 6: Accidental release measures

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



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### 6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not ingest. If swallowed then seek immediate medical assistance. 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. Wash hands before breaks and immediately after handling the product.

### 7.2 Conditions for safe storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Store under an inert atmosphere. Flammables area. Corrosives area.

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure Guidelines

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

#### Engineering Measures

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

### 8.2 Exposure controls

#### Personal protective equipment -

##### Eye / Face protection

Tight sealing safety goggles. Face protection shield.

##### 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.



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**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	Light yellow, Form: Liquid
b) Odour	Stench
c) Odour Threshold	No information available
d) pH	No information available
e) Melting point / freezing point	-89 °C / -128.2 °F
f) Initial boiling point and boiling range	102 °C / 215.6 °F @ 760 mmHg
g) Flash point	18 °C / 64.4 °F
h) Evaporation rate	No information available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	39 hPa @ 20 °C
l) Vapour density	3.67
m) Specific Gravity	1.018
n) Solubility	Decomposes in contact with water
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	280 °C / 536 °F
q) Decomposition temperature	No information available
r) Viscosity	No information available
s) Molecular formula	C4 H7 Cl O
t) Molecular Weight	106.55

**SECTION 10: Stability and Reactivity**

<b>10.1 Reactive Hazard :</b>	None known, based on information available
<b>10.2 Chemical stability :</b>	Stable under normal conditions. Moisture sensitive.
<b>10.3 Possibility of hazardous</b>	Contact with water liberates toxic gas.



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<b>reactions :</b>	
<b>10.4 Conditions to avoid :</b>	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water.
<b>10.5 Incompatible materials:</b>	Bases, Water, Strong oxidizing agents, Alcohols
<b>10.6 Hazardous decomposition products :</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Thermal decomposition can lead to release of irritating gases and vapors, Hydrogen chloride gas
<b>10.7 Hazardous Polymerization</b>	Hazardous polymerization does not occur.

### SECTION 11: Toxicological information

#### 11.1 Acute Toxicity

**Product Information**  
**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Butyryl chloride	1000-1470 mg/kg ( Rat )	>2000 mg/kg ( Rat )	3.6-5.7 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 :**    Causes skin burns Causes eye burns

**Sensitization:**    No information available

**Carcinogenicity :**    The table below indicates whether each agency has as a  
any ingredient as a Carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Butyryl chloride	141-75-3	Not listed	Not listed	Not listed	Not listed	Not listed

<b>Mutagenic Effects:</b>	No information available.
<b>Reproductive Effects:</b>	No information available.
<b>Developmental Effects :</b>	No information available.
<b>Teratogenicity:</b>	No information available.
<b>STOT - single exposure :</b>	None known
<b>STOT - repeated exposure:</b>	None known



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<b>Aspiration hazard :</b>	No information available
<b>Symptoms / effects, both acute and delayed:</b>	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
<b>Endocrine Disruptor Information :</b>	No information available
<b>Other Adverse Effects :</b>	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
Butyryl chloride	Not listed	LC50: > 464 mg/L, 96h static (Danio rerio)	Not listed	Not listed

**12.2 Persistence and degradability:** Persistence is unlikely based on information available.

#### Bioaccumulation/ Accumulation

No information available

#### 12.3 Mobility:

Is not likely mobile in the environment

### 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: 2353  
IMDG: 2353  
IATA: 2353

#### 14.2 UN proper shipping name

**ADR/RID :** BUTYRYL CHLORIDE





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<b>IMDG :</b>	BUTYRYL CHLORIDE		
<b>IATA :</b>	BUTYRYL CHLORIDE		
<b>14.3 Transport hazard class(es)</b>	ADR/RID: 3	IMDG: 3	IATA: 3
<b>Subsidiary Hazard Class</b>	ADR/RID: 8, 4.3	IMDG: 8, 4.3	IATA: 8, 4.3
<b>14.4 Packaging group:</b>	ADR/RID: II	IMDG: II	IATA: II

### SECTION 15: Regulatory information

#### 15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
Dodecanoyl chlorid	112-16-3	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
Dodecanoyl chloride	112-16-3	-	x	203-941-7	X	X	X	X	2002-3-2130

**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

**CERCLA** Not applicable



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**California Proposition 65**  
chemicals.

This product does not contain any Proposition 65

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

#### 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 contains the following DHS chemicals:

#### Other International Regulations

**Mexico – Grade**

No information available

## SECTION 16: Other information

### 16.1 Prepared By:

Regulatory Affairs  
Krishna Solvechem Ltd

Email:

[atul@kscl.co.in](mailto:atul@kscl.co.in)

Creation Date:

21-May-2010

Revision Date:

19-Jan-2018

Print Date:

19-Jan-2018

Revision Summary:  
OSHA

This document has been updated to comply with the US  
HazCom 2012 Standard replacing the current legislation

under 29

CFR 1910.1200 to align with the Globally Harmonized

System of

Classification and Labeling of Chemicals (GHS).

### 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.