

## Safety Data Sheet 5H66511ST

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/03/2018 Version: 1.0

SECTION 1: Identification		
1.1. Identification		
Product form	: Mixture	
Product name	: 2-(Chloromethyl)thiophene, 33% w/w solution in toluene	
CAS No	: 765-50-4	
Product code	: 5H66-5-11ST	
Formula	: C5H5CIS	
Synonyms	: Thiophene, 2-(chloromethyl)-	
Other means of identification	: MFCD00797972	
1.2. Relevant identified uses of the substa	ance or mixture and uses advised against	
Use of the substance/mixture	: Laboratory chemicals Manufacture of substances	
	Scientific research and development	
1.3. Details of the supplier of the safety data sheet		
SynQuest Laboratories, Inc. P.O. Box 309		
Alachua, FL 32615 - United States of America		
T (386) 462-0788 - F (386) 462-7097 info@synquestlabs.com - www.synquestlabs.com		
1.4. Emergency telephone number		
Emergency number	: (844) 523-4086 (3E Company - Account 10069)	

### **SECTION 2: Hazard(s) identification**

#### 2.1. Classification of the substance or mixture **Classification (GHS-US)** Flam. Liq. 2 H225 - Highly flammable liquid and vapour Acute Tox. 4 (Oral) H302 - Harmful if swallowed Skin Irrit. 2 H315 - Causes skin irritation Eye Irrit. 2A H319 - Causes serious eye irritation Repr. 2 H361 - Suspected of damaging fertility or the unborn child STOT SE 3 H336 - May cause drowsiness or dizziness STOT SE 3 H335 - May cause respiratory irritation STOT RE 2 H373 - May cause damage to organs through prolonged or repeated exposure H304 - May be fatal if swallowed and enters airways Asp. Tox. 1 Aquatic Acute 2 H401 - Toxic to aquatic life

Full text of H-phrases: see section 16

2.2. Label elements	
GHS-US labeling	
Hazard pictograms (GHS-US)	
	GHS02 GHS07 GHS08
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	<ul> <li>H225 - Highly flammable liquid and vapor H302 - Harmful if swallowed</li> <li>H304 - May be fatal if swallowed and enters airways</li> <li>H315 - Causes skin irritation</li> <li>H319 - Causes serious eye irritation</li> </ul>
	H335 - May cause respiratory irritation
	H336 - May cause drowsiness or dizziness
	H361 - Suspected of damaging fertility or the unborn child

- H373 May cause damage to organs through prolonged or repeated exposure
- H401 Toxic to aquatic life

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Precautionary statements (GHS-US)	<ul> <li>P201 - Obtain special instructions before use</li> <li>P202 - Do not handle until all safety precautions have been read and understood</li> <li>P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking</li> <li>P233 - Keep container tightly closed</li> <li>P240 - Ground/bond container and receiving equipment</li> <li>P241 - Use explosion-proof electrical/ventilating/lighting equipment</li> <li>P242 - Use only non-sparking tools</li> <li>P243 - Take precautionary measures against static discharge</li> <li>P260 - Do not breathe dust/fume/gas/mist/vapors/spray</li> <li>P264 - Wash skin thoroughly after handling</li> <li>P270 - Do not eat, drink or smoke when using this product</li> <li>P271 - Use only outdoors or in a well-ventilated area</li> <li>P273 - Avoid release to the environment</li> <li>P280 - Wear protective gloves/protective clothing/eye protection/face protection</li> <li>P301+P310 - If swallowed: Immediately call a poison center/doctor/</li> <li>P301+P312 - If swallowed: Call a POISON CENTER or doctor/ physician if you feel unwell</li> <li>P302+P352 - If on skin: Wash with plenty of soap and water</li> <li>P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower</li> <li>P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing</li> <li>P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</li> </ul>
	P308+P313 - If exposed or concerned: Get medical advice/attention P312 - Call a POISON CENTER or doctor/physician if you feel unwell P314 - Get medical advice/attention if you feel unwell
	P321 - Specific treatment (see supplemental first aid instructions on this label) P330 - Rinse mouth P331 - Do NOT induce vomiting P332+P313 - If skin irritation occurs: Get medical advice/attention
	P337+P313 - If eye irritation persists: Get medical advice/attention P362+P364 - Take off contaminated clothing and wash it before reuse P370+P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish P403+P233 - Store in a well-ventilated place. Keep cool P403+P235 - Store in a well-ventilated place. Keep cool P405 - Store locked up

### 2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

3.1. Substance

## Not applicable 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Toluene	(CAS No) 108-88-3	65 - 69	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
2-(Chloromethyl)thiophene	(CAS No) 765-50-4	31 - 35	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT SE 3, H335

Full text of H-phrases: see section 16

SECTION 4: First aid measures			
4.1. Description of first aid measures			
First-aid measures general		eel unwell, seek medical advice immediately (show fected personnel away from the contaminated area	
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.		
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First-aid measures after skin contact :	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Get immediate medical advice/attention.
First-aid measures after eye contact :	Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion :	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get immediate medical advice/attention.
4.2. Most important symptoms and effects	, both acute and delayed
	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
Symptoms/injuries after inhalation :	Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.
4.3. Indication of any immediate medical a	ttention and special treatment needed
Treat symptomatically.	
SECTION 5: Firefighting measures	
5.1. Extinguishing media	
	Alcohol resistant foam. Carbon dioxide. Dry powder. Water spray. Use extinguishing media appropriate for surrounding fire.
5.2. Special hazards arising from the subs	tance or mixture
Fire hazard :	Thermal decomposition generates: Carbon oxides. Hydrogen chloride. Sulfur oxides.
Explosion hazard :	Risk of explosion if heated under confinement. Use water spray or fog for cooling exposed containers. May form flammable/explosive vapor-air mixture.
5.3. Advice for firefighters	
Firefighting instructions :	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting :	Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".
SECTION 6. Assidental release measure	
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Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from ignition sources (including static discharges). Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2. Conditions for safe storage, include	ng any incompatibilities
Technical measures	: Comply with applicable regulations.
Storage conditions	: Keep container closed when not in use. Keep away from ignition sources.
Incompatible materials	: Refer to Section 10 on Incompatible Materials.
Storage temperature	: 2 - 8 °C Use explosion proof refrigerator
Storage area	: Store in dry, well-ventilated area.

## **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

Toluene (108-88-3)		
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	Visual impair; female repro;
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm
OSHA	Remark (OSHA)	(2) See Table Z-2.

8.2. Exposure controls	
Appropriate engineering controls	: Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection	: Protective gloves. 29 CFR 1910.138: Hand Protection.
Eye protection	: Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection.
Other information	: Safety shoes. 29 CFR 1910.136: Foot Protection.

<b>SECTION 9: Physical and chemical p</b>	roperties
9.1. Information on basic physical and ch	nemical properties
Physical state	: Liquid
Color	: Mixture contains one or more component(s) which have the following colour(s): Clear Colorless
Odor	<ul> <li>There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.</li> <li>Mixture contains one or more component(s) which have the following odour(s): model airplane glue</li> </ul>
Odor threshold	: No data available
рН	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available

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Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Molecular mass	: 132.611 g/mol
Solubility	<ul> <li>Water: Solubility in water of component(s) of the mixture :</li> <li>Toluene: 515 mg/l (at 20 °C)</li> </ul>
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. **Other information** 

No additional information available

## SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

#### 10.2. **Chemical stability**

The product is stable at normal handling and storage conditions.

#### Possibility of hazardous reactions 10.3.

No additional information available

#### 10.4. **Conditions to avoid**

Keep away from heat, sparks and flame.

#### 10.5. **Incompatible materials**

Strong acids. Strong bases. Strong oxidizing agents.

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

## **SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Acute toxicity

### : Oral: Harmful if swallowed.

2-(Chloromethyl)thiophene, 33% w/w solution in toluene (765-50-4)			
ATE US (oral)	1428.571 mg/kg body weigl	ht	
Toluene (108-88-3)			
LD50 oral rat	2600 mg/kg		
LD50 dermal rabbit	12000 mg/kg		
LC50 inhalation rat (mg/l)	12.5 mg/l/4h		
2-(Chloromethyl)thiophene (765-50-4)			
ATE US (oral)	500.000 mg/kg body weight		
Skin corrosion/irritation	: Causes skin irritation.		
Serious eye damage/irritation	: Causes serious eye irritatio	n.	
Respiratory or skin sensitization	: Not classified		
Germ cell mutagenicity	: Not classified		
Carcinogenicity	: Not classified		
Toluene (108-88-3)			
IARC group	3 - Not classifiable		
Reproductive toxicity	: Suspected of damaging fer	ility or the unborn child.	
Specific target organ toxicity (single exposure)	: May cause drowsiness or d	izziness. May cause respiratory irritation.	
Specific target organ toxicity (repeated exposure)	: May cause damage to orga	ns through prolonged or repeated exposure.	
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Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.

SECTION 12: Ecological information	
12.1. Toxicity	
Toluene (108-88-3)	
LC50 fish 1	15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

## 12.2. Persistence and degradability

No additional information available

## 12.3. Bioaccumulative potential

Toluene (108-88-3)	
Log Pow	2.65
12.4. Mobility in soil	
No additional information available	

### 12.5. Other adverse effects

Effect on the global warming

: No known ecological damage caused by this product.

<b>SECTION 13: Disposal consideratio</b>	ns
13.1. Waste treatment methods	
Waste treatment methods	: Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber.
Waste disposal recommendations	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Recycle the material as far as possible.

SECTION 14:	Transport i	nformation

### Department of Transportation (DOT)

In accordance with DOT	
Transport document description	: UN1993 Flammable liquids, n.o.s., 3, III
UN-No.(DOT)	: UN1993
Proper Shipping Name (DOT)	: Flammable liquids, n.o.s.
Transport hazard class(es) (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid

Packing group (DOT) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Symbols : III - Minor Danger

- : 203
- : 242
- : G Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)	bulk par flash po subcha B52 - N relief de IB3 - Au (31HZ1 with a v C (1.3 th 2 for UN T4 - 2.6 TP1 - T followin during t TP29 - provide	55 178.274(d)(2) Normal	chapter are applicable. If the material has a ackaging requirements of 173.242 of this his subchapter, non-reclosing pressure hks. ligid plastics (31H1 and 31H2); Composite HH2). Additional Requirement: Only liquids at 50 C (1.1 bar at 122 F), or 130 kPa at 55 572 (also see Special Provision IP8 in Table 3) ad the degree of filling determined by the : tr is the maximum mean bulk temperature s celsius of the liquid during filling. ure of 1.5 bar (150.0 kPa) may be used ss based on the MAWP of the hazardous
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150		
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)			
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L		
DOT Vessel Stowage Location	passen	material may be stowed "on deck" or "unde ger vessel.	r deck'' on a cargo vessel and on a
Other information	: No sup	plementary information available.	
TDG			
No additional information available			
Transport by sea			
UN-No. (IMDG)	: 1993		
Proper Shipping Name (IMDG)	: FLAMN	IABLE LIQUID, N.O.S.	
Class (IMDG)	: 3 - Flan	nmable liquids	
Packing group (IMDG)	: III - sub	stances presenting low danger	
Air transport			
UN-No. (IATA)	: 1993		
Proper Shipping Name (IATA)		able liquid, n.o.s.	
Class (IATA)		nmable Liquids	
Packing group (IATA)	: III - Min	or Danger	
SECTION 15: Regulatory information			
15.1. US Federal regulations			
All components of this product are listed, or exc Substances Control Act (TSCA) inventory except		listing, on the United States Environmental F	Protection Agency Toxic
2-(Chloromethyl)thiophene		CAS No 765-50-4	31 - 35%
Chemical(s) subject to the reporting requiremer 1986 and 40 CFR Part 372.	ts of Section	on 313 or Title III of the Superfund Amendme	ents and Reauthorization Act (SARA) of
Toluene		CAS No 108-88-3	65 - 69%
Toluene (108-88-3)			
Subject to reporting requirements of United Sta	es SARA S	Section 313	
SARA Section 313 - Emission Reporting	1.0 %		
15.2. International regulations			
CANADA			

CANADA

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Toluene (108-88-3)	
Listed on the Canadian DSL (Domestic Sustance	s List)
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

### **EU-Regulations**

No additional information available

lational regulations
2-(Chloromethyl)thiophene, 33% w/w solution in toluene (765-50-4)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Toluene (108-88-3)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Poisonous and Deleterious Substances Control Law Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on the Canadian IDL (Ingredient Disclosure List) Listed on INSQ (Mexican national Inventory of Chemical Substances) Listed on Turkish inventory of chemical
2-(Chloromethyl)thiophene (765-50-4)
Listed on the Japanese ISHL (Industrial Safety and Health Law)

### 15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

## Toluene (108-88-3)

Toluelle (100-00-3)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	Yes	No	No	
Toluene (108-88-3)				

U.S. - Massachusetts - Right To Know List

- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List U.S. Pennsylvania RTK (Right to Know) List

### **SECTION 16: Other information**

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Full text of H-phrases:			
Acute Tox. 4 (Inhalation:vapo	ur) Acute toxicity (inhalation:vapour) Category 4		
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4		
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2		
Asp. Tox. 1	Aspiration hazard Category 1		
Eye Dam. 1	Serious eye damage/eye irritation Category 1		
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A		
Flam. Liq. 2	Flammable liquids Category 2		
Flam. Liq. 4	Flammable liquids Category 4		
Repr. 2	Reproductive toxicity Category 2		
Skin Corr. 1C	Skin corrosion/irritation Category 1C		
Skin Irrit. 2	Skin corrosion/irritation Category 2		
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2		
STOT SE 3	Specific target organ toxicity (single exposure) Category 3		
STOT SE 3	Specific target organ toxicity (single exposure) Category 3		
H225	Highly flammable liquid and vapor		
H227	Combustible liquid		
H302	Harmful if swallowed		
H302	May be fatal if swallowed and enters airways		
H304 H314	Causes severe skin burns and eye damage		
H315	Causes severe shin burns and eye damage		
H318			
	Causes serious eye damage		
H319	Causes serious eye irritation Harmful if inhaled		
H332			
H335	May cause respiratory irritation		
H336	May cause drowsiness or dizziness		
H361	Suspected of damaging fertility or the unborn child		
H373	May cause damage to organs through prolonged or repeated		
H401	exposure Toxic to aquatic life		
FPA health hazard	<ul> <li>2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.</li> <li>2 - Must be moderately heated or exposed to relatively high</li> </ul>		
T A life hazard	temperature before ignition can occur.		
FPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.		
MIS III Rating			
ealth	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment given		
ammability	2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)		
hysical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NO react with water, polymerize, decompose, condense, or self-react. Non-Explosives.		
OS US (GHS HazCom 2012)			

SDS US (GHS HazCom 2012)

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones which exist. SynQuest shall not be held liable or any damage resulting from handling or from contact with the above product.