SAFETY DATA SHEET

ALFAAL11483

3-Chlorophenyl isocyanate

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: **3-氯苯基异氰酸酯**
Product Description: **3-Chlorophenyl isocyanate**

Cat No. : **L11483**
Synonyms 1-Chloro-3-isocyanatobenzene; m-Chlorophenyl isocyanate; MCPI.
CAS No 2909-38-8
Molecular Formula C7 H4 Cl N O

Supplier

Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
Shore Road, Heysham
Lancashire, LA3 2XY,
United Kingdom
Office Tel: +44 (0) 1524 850506
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Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State	**Appearance**	**Odor**
Liquid	Light yellow	pungent

Emergency Overview

Combustible liquid. May be harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Moisture sensitive. Lachrymator (substance which increases the flow of tears).

Classification of the substance or mixture

Flammable liquids.	Category 4
Acute Oral Toxicity	Category 5
Acute Inhalation Toxicity - Vapors	Category 1
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Respiratory Sensitization	Category 1
Specific target organ toxicity - (single exposure)	Category 3

Label Elements

Signal Word **Danger**

Hazard Statements
H227 - Combustible liquid
H303 - May be harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation

Precautionary Statements
Prevention
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P284 - In case of inadequate ventilation wear respiratory protection
Response
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P362 + P364 - Take off contaminated clothing and wash it before reuse
Storage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards
Combustible material.
Health Hazards
May be harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
Environmental hazards
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Other Hazards
Lachrymator (substance which increases the flow of tears)
This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Benzene, 1-chloro-3-isocyanato-	2909-38-8	98

SECTION 4. FIRST AID MEASURES

Eye Contact
Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.

Inhalation
Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion
Never give anything by mouth to an unconscious person. Drink plenty of water. Induce vomiting, but only if victim is fully conscious. Call a physician immediately. Clean mouth with water. Get medical attention.

Most important symptoms and effects
Difficulty in breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes burns by all exposure routes. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: 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

Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician
Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide (CO_2). Powder.

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Combustible material. Flammable.

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Ensure adequate ventilation.

Environmental Precautions
See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Wear self-contained breathing apparatus and protective suit.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Do not breathe dust. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation.

Storage
Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame.

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Benzene, 1-chloro-3-isocyanato-				STEL: 0.07 mg/m³ 15 min TWA: 0.02 mg/m³ 8 hr Resp. Sens.	

Exposure Controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin 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.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use In case of insufficient ventilation, wear suitable respiratory equipment

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure

limits are exceeded or if irritation or other symptoms are experienced.
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light yellow	
Physical State	Liquid	
Odor	pungent	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	-4 °C / 24.8 °F	
Softening Point	No data available	
Boiling Point/Range	201 °C / 393.8 °F	@ 760 mmHg
Flash Point	82 °C / 179.6 °F	**Method -** No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	0.35 hPa @ 20 °C	
Vapor Density	5.3 (Air = 1.0)	(Air = 1.0)
Specific Gravity / Density	1.270	
Bulk Density	No data available	
Water Solubility	Decomposes	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	600 °C / 1112 °F	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	
Molecular Formula	C7 H4 Cl N O	
Molecular Weight	153.57	

SECTION 10. STABILITY AND REACTIVITY

Stability Stable under normal conditions. Moisture sensitive.

Hazardous Reactions No information available.
Hazardous Polymerization No information available.

Conditions to Avoid Heat, flames and sparks. Incompatible products. Exposure to moist air or water.

Materials to avoid Acids. Water. Strong oxidizing agents. Strong bases. Alcohols. Amines.

Hazardous Decomposition Products Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen cyanide (hydrocyanic acid). Hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information No acute toxicity information is available for this product

(a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzene, 1-chloro-3-isocyanato-	LD50 = 4200 mg/kg (Rat)	LD50 > 2.5 mL/kg (Rat)	LC50 = 58 mg/m³ (Rat) 4 h LC50 = 39 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

May cause sensitization by inhalation

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

Results / Target organs Respiratory system

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: 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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Persistence and Degradability Not readily biodegradable

Bioaccumulative Potential No information available

Mobility in soil No information available

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

Other Information Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

UN-No UN3382
Proper Shipping Name TOXIC BY INHALATION LIQUID, N.O.S.
Technical Shipping Name 3-Chlorophenyl isocyanate
Hazard Class 6.1
Packing Group I

IMDG/IMO

UN-No UN3382
Proper Shipping Name TOXIC BY INHALATION LIQUID, N.O.S.
Technical Shipping Name 3-Chlorophenyl isocyanate
Hazard Class 6.1
Packing Group I

IATA FORBIDDEN FOR IATA TRANSPORT

UN-No UN3382
Proper Shipping Name TOXIC BY INHALATION LIQUID, N.O.S.*, FORBIDDEN FOR IATA TRANSPORT
Technical Shipping Name 3-Chlorophenyl isocyanate
Hazard Class 6.1
Packing Group I

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories
X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Benzene,	-	-	X	X	220-822-5	X	-	X	-	X	-	-

1-chloro-3-isocyanato-												

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By Health, Safety and Environmental Department
Revision Date 22-Apr-2024
Revision Summary New emergency telephone response service provider.

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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

End of Safety Data Sheet