1,3,5-trichlorobenzene

EAST HARBOUR GROUP

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:	1,3,5-trichlorobenzene
CAS Number:	108-70-3

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

Identified use:	For Industrial use only

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Acute toxicity – Oral, Category 4
Acute toxicity - Dermal, Category 4
Skin irritation, Category 2
Eye irritation, Category 2
Acute toxicity - Inhalation, Category 4
Specific target organ toxicity – single exposure, Category 3
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

2.2 Label elements

Signal word: Warning

Hazard statements:
H302 Harmful if swallowed
H312 Harmful in contact with skin
H315 Causes skin irritation
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation

1,3,5-trichlorobenzene

H412-Harmful t aquatic life with long lasting effects
Precautionary statements:
Prevention:
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment
Response:
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water
P312 Call a POISON CENTER/doctor if you feel unwell.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Storage:
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up
Disposal:
P501 Dispose of contents/container

Section 3: Composition/information on ingredients

3.2 Mixtures

CAS #	Content (W/W)	Ingredients
108-70-3	100	1,3,5-trichlorobenzene

Chemical name: 1,3,5-trichlorobenzene
Common name / synonyms: -

Section 4: First aid measures

4.1 Description of first aid measures
In case of skin contact: Remove contaminated clothes. Rinse skin with plenty of water or shower.
In case of eye contact: First rinse with plenty of water for several minutes (remove contact lenses if easily possible) then refer for medical attention.
If swallowed: Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention.
If inhaled: Fresh air, rest. Refer for medical attention.

4.2 Most important symptoms and effects, both acute and delayed
SYMPTOMS: Symptoms of exposure to this compound include skin, eye, and mucous membrane irritation; and hair loss.
ACUTE/CHRONIC HAZARDS: This compound may cause skin, eye, and mucous membrane irritation

1,3,5-trichlorobenzene

EAST HARBOUR GROUP

4.3 Indication of any immediate medical attention and special treatment needed
Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Aromatic hydrocarbons and related compounds.

Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:
Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may spread fire. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use foam, dry chemical, or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
This chemical is combustible.

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3 Methods and material for containment and cleaning up
SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pre-treatment and/or discharge to a POTW is acceptable only after review by the governing authority. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer, and disposal. If it is not practicable to manage the chemical in this fashion, it must meet Hazardous Material Criteria for disposal.

Section 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed.

1,3,5-trichlorobenzene

7.2 Conditions for safe storage, including any incompatibilities
Separated from strong oxidants. Keep in a well-ventilated room. In general, it is unsafe to store oxidizers close to liquids of low flash point. ... Keep all flammables away from an area where oxidizing agents are stored. This storage area should be kept cool and ventilated and should be fireproof.

Section 8: Exposure controls/personal protection

8.1 Control parameters
No information available.

8.2 Exposure controls
Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Personal protective equipment
Eye/face protection: Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection: Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection: Wear dust mask when handling large quantities.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	No information available
Physical state	No information available
Odour	No information available
Odour threshold	No information available
pH	No information available
Melting point/range	No information available
Boiling point/range	208˚C
Flash point	126˚C
Evaporation rate	No information available
Flammability (solid, gas)	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Explosion Limits	No information available
Vapour pressure	0.267mmHg at 25˚C
Density	1.448 g/cm3
Relative vapour density	6.26 (relative to air)
Bulk density	No information available
Solubility	Less than 0.1 m/g/mL at 19.5˚C
Solubility in other solvents	No information available
Partition coefficient	log Know = 4.19
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	0.841 mPa.s @ 70˚C

1,3,5-trichlorobenzene

EAST HARBOUR GROUP

Section 10: Stability and Reactivity

10.1 Reactivity	No information available
10.2 Chemical Stability	Stable under normal laboratory storage conditions. Volatile with steam.
10.3 Possibility of hazardous reactions	Moderate when exposed to heat or flame. Can react vigorously with oxidising materials.
10.4 Conditions to avoid	No information available
10.5 Incompatible materials	Can react vigorously with oxidising materials.
10.6 Hazardous decomposition products	The substance decomposes on burning producing toxic and corrosive fumes.

Section 11: Toxicological Information

Product Information
11.1 Toxicological effects:
Acute Toxicity:
Oral: LD50 Rat oral 800 mg/kg
Inhalation: No data available
Dermal: No data available

Section 12: Ecological Information

12.1 Toxicity
Toxicity to fish: LD50; Species: Oncorhynchus mykiss (Rainbow trout weight 9.1-43.2 g, length 7.6-9.6 cm); Conditions: freshwater, gavage, 13.3-14.1°C, pH 8.04-8.21, alkalinity 86 mg/L CaCO3, dissolved oxygen 8.0-10.0 mg/L; Concentration: 39.6 mmol/kg /formulated product
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
Persistence and degradability
AEROBIC: 1,3,5-Trichlorobenzene was resistant to biodegradation when exposed to mixed cultures of microorganisms adapted to phenol for an unspecified period of time (1). 1,3,5-Trichlorobenzene incubated in domestic wastewater for 24 and 135 hours showed 0% biodegradation, while 1,3,5-trichlorobenzene incubated in adapted wastewater showed 20 and 47% biodegradation after 24 and 135 hours, respectively (2). 1,3,5-Trichlorobenzene, present at 100 mg/L, reached 0% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test (3). The half-life of 1,3,5-trichlorobenzene in sewage sludge amended soil was 24 days (4). 1,3,5-Trichlorobenzene showed no biodegradation when incubated in sediment from freshwater streams in the Netherlands (5). 1,3,5-Trichlorobenzene was found to be persistent when a conch of 28 uM was incubated for 4 days (6). These data suggest that biodegradation is not an important environmental fate process (SRC)
Bioaccumulative Potential
BCFs of 600-1,600 and 150-1,700 were measured in carp exposed for a 6-week incubation period at conchs of 25 and 2.5 ug/L of 1,3,5-trichlorobenzene, respectively (1). Trout exposed to 1,3,5-trichlorobenzene for up to 119 days had a mean BCF of 1,800(2). Guppy (Poecilia reticulata) had a BCF of 756 wet weight but was calculated as 14,000 based on lipid weight for 1,3,5-trichlorobenzene (3). According to a classification scheme (4), these BCF values suggest that bioconcentration in aquatic organisms is high to very high. 1,3,5-Trichlorobenzene had a measured BCF of 2 in pond snail (Lymnaea stagnalis) after 10 days of exposure (5).

1,3,5-trichlorobenzene

Mobility in soil
Measured log Koc values for 1,3,5-trichlorobenzene of 2.8(1), 3.09(2), 3.2(3), 3.69(4), 3.79(5) and 3.82(6), were reported in soil. According to a recommended classification scheme (7), these Koc values suggest that 1,3,5-trichlorobenzene has low to no mobility in soil (SRC).

Section 13: Disposal considerations

13.1 Waste treatment methods
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated Packaging: Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

Section 14: Transport Information

UN Number
ADR/RID: UN3077 IMDG: UN3077 IATA: UN3077
Proper Shipping Name
ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport Classes
ADR/RID: 9 IMDG: 9 IATA: 9
Packing Group
ADR/RID: III IMDG: III IATA: III
Environmental Hazards
ADR/RID: No IMDG: No IATA: No
This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed
EC Inventory	Listed
United States Toxic Substances Control Act (TSCA) Inventory	Listed
China Catalog of Hazardous Chemicals 2015	Listed
New Zealand Inventory of Chemicals (NZIoC)	Listed
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed
Vietnam National Chemical Inventory	Not listed
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed