

Oxalyl Dichloride

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

1.1. Product identifier

Name of product	Oxalyl dichloride
Name of substance	Art-Nr(n): 2530 Oxalyl dichloride
EC No	201-200-2
REACH registration number	01-2119955690-32-0000
CAS No	79-37-8

Manufacturer / Distributor:

Ehsan International Gases

40/9, Aurangabad, Nazimabad
#3, Karachi 74600, Pakistan.
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Sector of uses [SU]

SU9 - Manufacture of fine chemicals

Process categories [PROC]

PROC1 - Use in closed process, no likelihood of exposure

PROC3 - Use in closed batch process (synthesis or formulation)

PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Environmental release categories [ERC]

ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Recommended intended purpose(s)

Basic substance. Intermediate.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to 67/548/EEC or 1999/45/EC

F; R14/15

Xn; R20/22

R29

C; R35

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Xi; R37

R-phrases

14/15 Reacts violently with water, liberating extremely flammable gases.
 20/22 Harmful by inhalation and if swallowed.
 29 Contact with water liberates toxic gas.
 35 Causes severe burns.
 37 Irritating to respiratory system.

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard	Hazard Statements	Classification procedure categories
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Water-react. 1	H260	On basis of test data.
Acute Tox. 3		
Acute Tox. 3		On basis of test data.
Skin Corr. 1B	H314	

Hazard statements for physical hazards

H260 In contact with water releases flammable gases which may ignite spontaneously.

Hazard statements for health hazards

H301 + H331 Toxic if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]



GHS02



GHS05



GHS06

Signal word

Danger

Hazard statements for physical hazards

H260 In contact with water releases flammable gases which may ignite spontaneously.

Hazard statements for health hazards

H301 + H331 Toxic if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.

Precautionary Statements

Prevention

P223 Do not allow contact with water.
 P260 Do not breathe mist/vapours.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P308 IF exposed or concerned:
 P315 Get immediate medical advice/attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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P405 Store locked up.

Hazardous ingredients for labeling

Oxalyl dichloride

Supplemental Hazard information (EU)

Physical properties

Reacts violently with water.

Health properties

Contact with water liberates toxic gas.

Corrosive to the respiratory tract.

Additional information

Remark The product should only be used as an intermediate for the synthesis of other substances.

2.3. Other hazards

Adverse human health effects and symptoms

Contact with liquid may cause cold burns/frostbite.

Information pertaining to special dangers for human and environment

Dangerous substances are released in case of decomposition.

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

Results of PBT and vPvB assessment

not determined

SECTION 3: Composition/ information on ingredients

3.1. Substances

CAS No 79-37-8

Oxalyl dichloride

EC No 201-200-2

REACH registration number 01-2119955690-32-0000

! Additional advice

Impurities: < 0,1 % Tetrachloromethane (Index No: 602-008-00-5, CAS No: 56-23-5, EC No: 200-262-8); <= 0,2 % Trichloroacetyl chloride (CAS No: 76-02-8, EC No: 200-926-7).

3.2. Mixtures

not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

Adhere to personal protective measures when giving first aid.

Seek medical advice immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.

In case of breathing difficulties give oxygen.

In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registered trademarks).

Seek medical treatment immediately.

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In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Send for a doctor.

In case of skin contact

In case of contact with skin wash off immediately with plenty of water.

Seek medical treatment immediately.

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In case of eye contact

Eye rinsing with water carefully while protecting unhurt eye.
Medical treatment by eye specialist.
Call for a doctor immediately.

In case of ingestion

Do not induce vomiting.
Refer to medical treatment.
Rinse out mouth and give plenty of water to drink.

4.2. Most important symptoms and effects, both acute and delayed

Physician's information / possible dangers

Risk of pulmonary oedema

4.3. Indication of any immediate medical attention and special treatment needed

Treatment (Advice to doctor) Treat symptoms.

Pulmonary oedema prophylaxis.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry powder
Carbon dioxide
sand

Unsuitable extinguishing media

water foam

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released:

Carbon monoxide (CO)
Carbon dioxide (CO₂)
Hydrogen chloride (HCl)
Phosgene

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated). Wear full protective clothing.

Additional information

Cool endangered containers with water spray jet.
Exposure to fire may cause containers to rupture / explode.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.
Collect contaminated firefighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel See chapter 8.

Remove persons to safety.
Evacuate area.
Keep people away and stay on the upwind side.
Keep away sources of ignition.

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6.2. Environmental precautions

Do not discharge into the drains or bodies of water..
Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Ensure adequate air ventilation.
Clean contaminated objects and floor thoroughly under consideration of environment regulations.
Take up with absorbent material (e.g. kieselguhr).
After taking up the material dispose according to regulation.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.
If the product is discharged from bunghole drums: Cool down the product to -5 °C before the bunghole is opened.
Transfer and handle only in enclosed systems.
Open container only under local exhaust ventilation.
Provide good room ventilation even at ground level (vapours are heavier than air).
Suck back of water into the container must be prevented.
No water to valves, flanges and other fittings.
Purging of pipes and valves with inert gases - to avoid: water, solvents.

General protective measures

Do not inhale vapours.

Hygiene measures

At work do not eat, drink and smoke.
Wash hands before breaks and after work.
Use barrier skin cream.

Advice on protection against fire and explosion

Keep away from sources of ignition
Take precautionary measures against static discharges (earthing (grounding) at pouring)
Use explosion-proof equipment / fittings and non-sparking tools.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels Ventilate store-rooms thoroughly. Keep only in original container.

Advice on storage compatibility

Do not store with combustible materials.
Do not store with gases.
Do not store together with animal feedstuffs.
Do not store together with explosives.
Do not store together with infectious substances.
Do not store together with radioactive material.
Do not store together with food.
Do not store together with oxidizing agents.

Further information on storage conditions

Store closed container at cool and aired place.

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Keep container dry.
Protect from heat/overheating.
Recommended storage temperature: =< 25 °C.

7.3. Specific end use(s)

Recommendation(s) for intended use

Use as an intermediate under strictly controlled conditions.
Use in accordance with regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ingredients with occupational exposure limits to be monitored

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
7647-01-0	Hydrogen chloride	WEL, 8 hours Short-term	2 8	1 5	EH40, UK
7647-01-0	hydrogen chloride	8 hours Short-term	8 15	5 10	EU

8.2. Exposure controls

Respiratory protection

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Breathing apparatus in the event of high concentrations.
Keep self contained breathing apparatus readily available for emergency use. Short term: filter apparatus, combination filter ABEK-CO-P2.

Hand protection chemical-resistant gloves

Glove material specification [make/type, thickness, permeation time/life]: NBR; 0,4 mm; < 30 min
Glove material specification [make/type, thickness, permeation time/life]: FKM; 0,7 mm; < 60 min

Eye protection safety goggles, in case of increased risk add protective face shield

Other protection measures

Safety shoes with steel toe.
Body covering work clothing, or chemical resistant suit at increased risk.

Limitation and surveillance of the environment

Exhaust air scrubber
Hydrolysis

Appropriate engineering controls

Transfer and handle only in enclosed systems.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

liquid

Colour

colourless, clear

Odour

pungent

Odour threshold

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not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not determined				
boiling point	63 °C		1013 hPa		
melting point	-12 °C				
Flash point	> 100 °C				
Vapourisation rate	not determined				
Flammable (solid)	not determined				
Flammability (gas)	not determined				
Ignition temperature	not determined				
Self ignition temperature	not determined				
Lower explosion limit	not determined				
Upper explosion limit	not determined				
Vapour pressure	232 hPa	20 °C			
Relative density	1,478	20 °C			Water = 1 - information concerns to liquid phase.
Vapour density	4,4				
Solubility in water	not	spontaneous	applicable	decomposition	
Solubility/other					not determined
Partition coefficient n- (log P O/W) applicable	not	octanol/water			
Decomposition temperature	not determined				
Viscosity	not determined				
Oxidising properties	no				
Explosive properties	no				

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9.2. Other information

Vapours are heavier than air.

SECTION 10: Stability and reactivity

10.1. Reactivity

See section "Possibility of hazardous reactions".

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts violently with water.

Contact with water liberates toxic gas.

In contact with water releases flammable gases.

Hydrolyses to hydrogen chloride and carbon monoxide.

10.4. Conditions to avoid

Heat sources / heat - risk of bursting.

Humidity.

10.5. Incompatible materials

Substances to avoid Water / moisture.

Alkalis.

Alcohols.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

Hydrogen chloride (HCl)

Phosgene

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity/Irritability/Sensitization

Subacute Toxicity - Carcinogenicity

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 200 mg/kg	rat		
LC50 acute inhalation	1840 ppm (1 h)	rat		BARBEE, S.J.; STONE, J.J., HILASKI, R.J.: Acute Inhalation Toxicology of Oxalyl Chloride. Am.. Ind.. Hyg. Assoc. J., 56(1): 74-76 (1995).
Irritability skin	corrosive			
Irritability eye	risk of strong eye injuries			

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Value	Species	Method	Validation
Mutagenicity			not determined
Reproduction-Toxicity			not determined
Carcinogenicity			not determined
Experiences made from practice			
Inhalation can cause damage to the respiratory tract or lungs.			
Irritates respiratory tract.			
Pulmonary damage is possible.			
Irritates mucous membranes.			

SECTION 12: Ecological information

12.1. Toxicity

No information available.

12.2. Persistence and degradability

Elimination rate	Method of analysis	Method	Validation
Biological			not degradable
degradability			

The product is unstable in water. The information on elimination relates to the hydrolysis products.

12.3. Bioaccumulative potential

not applicable

12.4. Mobility in soil

not applicable

12.5. Results of PBT and vPvB assessment

not determined

12.6. Other adverse effects

no

Additional ecological information

Value	Method	Remark
COD		not determined
BOD		not determined

General regulation

The product hydrolyses.

Do not allow uncontrolled leakage of product into the environment.

Product is not allowed to be discharged into the ground water or aquatic environment.

Product is not allowed to be discharged into aquatic environment, drains or sewage treatment plants.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste code No.

07 01 07*

Name of waste

halogenated still bottoms and reaction residues

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product

Dispose of as hazardous waste.

Recommendations for packaging

Totally emptied packaging: Return to supplier / manufacturer.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	3129	3129	3129
14.2. UN proper shipping name	WATER-REACTIVE LIQUID, CORROSIVE, N. O.S. (Oxalylchlorid)	WATER-REACTIVE LIQUID, CORROSIVE, N.O.S. (Oxalyl chloride)	Water-reactive liquid, corrosive, n.o.s. (Oxalyl chloride)
14.3. Transport hazard class(es)	4.3 (8)	4.3 (8)	4.3 (8)
14.4. Packing group	I	I	I
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC - Code.

Land and inland navigation transport ADR/RID

Hazard label(s) 4.3+8 tunnel restriction code B/E

Classification code WC1

Marine transport IMDG

EmS: F-G, S-N

Air transport ICAO/IATA-DGR

Cargo aircraft only.

Cargo aircraft only: max. 1 l.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations (EU)

Regulation (EU) No. 1005/2009 concerning materials, which cause damage to the ozone layer.

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Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 40.

Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.

VOC standard

VOC content >=99 % 20 °C 232 hPa

15.2. Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

SECTION 16: Other information

Recommended uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

All declarations of safety-data-sheet refer to pure substance.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. Indication of changes: "!" = Data changed compared with the previous version.

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