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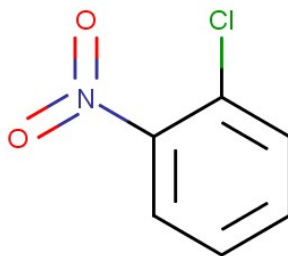
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1. General Statement

2-Nitrochlorobenzene is an organic compound. It is a yellow crystalline solid which is mainly used as a precursor to other compounds due to its two functional groups. Combustible substance, poorly flammable. Very slightly soluble in water. Acute or chronic health hazards result from the substance. The substance is hazardous to the aquatic environment.

2. Chemical identity

Name : 2-nitrochlorobenzene
CAS number(s) : 88-73-3
EC number : 201-854-9
Molecular formula : C₆H₄ClNO₂
Structure :



3. Uses and Benefits

The compound is particularly useful because both of its reactive sites can be utilized to create further compounds that are mutually ortho. It is used as an intermediate in the manufacture of o-aminophenol. 2-Nitrochlorobenzene derivatives find many outlets in the synthesis of colorants and effect chemicals. It also acts as a raw material in the manufacture of rubber accelerators and stabilizers.

4. Physical / chemical properties

Property	Value
Physical state :	Solid
Colour :	Yellow-green.
Odour :	Aromatic odour. Characteristic odour.
pH :	6
Melting point	32.5 °C
Boiling point :	246 °C (1000 hPa)

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Flash point :	123 °C (Closed cup, 1013 hPa)
Density :	1.368 g/mL at 22 °C
Solubility Water:	0.0441 g/100ml

5. Health Effects

Effect Assessment	Result
Acute toxicity (Oral / inhalation / dermal)	Toxic if swallowed, in contact with skin or if inhaled
Irritation / corrosion Skin / eye/ respiratory tract	NO
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Toxicity after repeated exposure Oral / inhalation / dermal	Causes damage to organs through prolonged or repeated exposure.
Genotoxicity / Mutagenicity	NO
Carcinogenicity	Suspected of causing cancer.
Toxicity for reproduction	Suspected of damaging fertility or the unborn child.

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	Yes
Fate and behavior	Result
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

7. Exposure

Human health

The substance is suspected of causing cancer , suspected of damaging fertility or the unborn child and also causes damage to organs through prolonged or repeated exposure. The most likely route of human exposure (workers) is through skin. In industrial settings, ingestion is not an anticipated route of exposure. The probability of exposure to workers is expected to be low because this product is manufactured in an enclosed controlled environment and is transported in well sealed containers. Workers may be exposed during (un)loading, mixing, sampling, analysis or maintenance operations and particularly in case of batch processes. The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective

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and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers. Careless handling or accidental spillage of the chemical could result in exposure to potentially hazardous levels of chemicals. Industrial workers should ensure that they follow the advice found in the extended safety data sheet (SDS).

Environment

Substance is toxic to aquatic life with long lasting effects. Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

8. Risk Management Recommendations

Human health measures

Organizational	A basic standard of occupational hygiene is recommended. Ensure operatives are well informed of the hazards and trained to minimise exposures.Ensure regular inspection and maintenance of equipment and machines.Handle and store according to the indications of the Safety Data Sheet.	
Protection	Eye protection:	Safety glasses
	Skin and body protection:	Wear suitable protective clothing
	Respiratory protection:	Wear an appropriate mask. Self-contained breathing apparatus
Engineering controls	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.Ensure good ventilation of the work station.	
Environment protective measures		
Products must not be released into water without pre-treatment.		

9. First-aid measures

First-aid measures after inhalation : Remove the person to fresh air and keep them comfortable for breathing. Take medical advice.

First-aid measures after skin contact : Wash skin with plenty of water. Remove/Take off immediately all contaminated clothing.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

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10. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

Advice for firefighters

Precautionary measures fire : Eliminate all ignition sources if safe to do so. Keep away from combustible materials.

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

11. Accidental release measures

Protective equipment : Wear recommended personal protective equipment. ISO 374-1. ISO 16321-1. EN 14605.

Environmental precautions : Avoid release to the environment. Notify authorities if a product enters sewers or public waters.

For containment : Stop leak without risks if possible. Collect spillage.

12. Disposal consideration

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment. Dispose of an authorized waste collection point. Hazardous waste shall not be mixed together with other waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

13. Handling and storage

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle it until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product in the workplace. Limit quantities of

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product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

14. Classification and Labeling

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, vapours, spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P311 - Call a poison center or doctor.
P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice or attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

15. Conclusion

O-nitrochlorobenzene appears as yellow crystals with an aromatic odor. The substance is suspected to cause cancer and suspected of damaging fertility or the unborn child. Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. The exposure must be kept as minimum as possible

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by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

16. Contact Information within company

Manufacturer

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This GPS safety summary is intended to give general information about the health, safety and environmental and not intended to provide in-depth details. To obtain the most accurate and current information, consult the appropriate Safety Data Sheet (SDS) prior to use of the material named herein.