

Safety Data Sheet

15 Mix Nitrobenzene in n-hexane

Version : V2.0.0.1

Report No. : BWQ9093-2016-MSDS-EP

Creation Date : 2026/01/08

Revision Date : -



*Prepared in accordance with EU REACH Regulation (REACH 1907/2006 with amendment 2020/878)

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

1.1 Product identifier

Product Name	15 Mix Nitrobenzene in n-hexane
Cat No.	BWQ9093-2016
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable
REACH Registration Number	-
UFI	No information available

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

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet

Name of the company	Weiyel Inc
Address of the company	Hedian Light Industrial Park, Chengguan Town, Shangcheng County, Xinyang City, Henan Province, China
Post code	465350
Telephone number	010-58103678
Fax number	010-84840368
E-mail address	info@weiyel.com

1.4 Emergency telephone number

Emergency telephone number	010-58103678
Opening hours	24h

2 Hazards identification

2.1 CLP classification according to Regulation (EC) No. 1272/2008 with amendment 2023/707

Aspiration hazard	Category 1
Skin Corrosion/Irritation	Category 2
Specific target organ toxicity - single exposure; narcotic effects	Category 3
Reproductive toxicity	Category 2

Specific target organ toxicity - repeated exposure	Category 1
Hazardous to the aquatic environment - long-term (chronic) hazard	Category 3

2.2 Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H361f	Suspected of damaging fertility
H372	Causes damage to organs through prolonged or repeated exposure (blood, nervous system, erythrocytes, liver, kidneys, spleen, nose respiratory epithelium)
H412	Harmful to aquatic life with long lasting effects

Precautionary statements

◆ Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe gas/mist/vapour/spray.
P264	Wash hands and other parts of the body (if related) 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.

◆ Response

P312	Call a POISON CENTRE/ doctor/... if you feel unwell.
P314	Get medical advice/ attention if you feel unwell.
P321	Specific treatment (see related instructions on the label).
P331	Do NOT induce vomiting.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/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.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

◆ Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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| 2.3 Other hazards

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Nitrobenzene	Insufficient information, temporarily unable to evaluate
2-nitrotoluene	Insufficient information, temporarily unable to evaluate
3-nitrotoluene	Insufficient information, temporarily unable to evaluate
4-nitrotoluene	Insufficient information, temporarily unable to evaluate
1-chloro-3-nitrobenzene	Insufficient information, temporarily unable to evaluate
1-chloro-4-nitrobenzene	Insufficient information, temporarily unable to evaluate
1-chloro-2-nitrobenzene	Insufficient information, temporarily unable to evaluate
1,3-dinitrobenzene	Insufficient information, temporarily unable to evaluate
1,4-dinitrobenzene	Insufficient information, temporarily unable to evaluate
2,6-dinitrotoluene	Insufficient information, temporarily unable to evaluate
1,2-dinitrobenzene	Insufficient information, temporarily unable to evaluate
2,4-dinitrotoluene	Insufficient information, temporarily unable to evaluate
1-chloro-2,4-dinitrobenzene	Insufficient information, temporarily unable to evaluate
3,4-dinitrotoluene	Insufficient information, temporarily unable to evaluate
2,4,6-trinitrotoluene	Not PBT/vPvB
N-hexane	Not PBT/vPvB

◆ Results of endocrine disrupting properties assessment

Component	Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]
Nitrobenzene	Insufficient information, temporarily unable to evaluate
2-nitrotoluene	Insufficient information, temporarily unable to evaluate
3-nitrotoluene	Insufficient information, temporarily unable to evaluate
4-nitrotoluene	Insufficient information, temporarily unable to evaluate
1-chloro-3-nitrobenzene	Insufficient information, temporarily unable to evaluate
1-chloro-4-nitrobenzene	Insufficient information, temporarily unable to evaluate
1-chloro-2-nitrobenzene	Insufficient information, temporarily unable to evaluate
1,3-dinitrobenzene	Insufficient information, temporarily unable to evaluate
1,4-dinitrobenzene	Insufficient information, temporarily unable to evaluate
2,6-dinitrotoluene	Insufficient information, temporarily unable to evaluate
1,2-dinitrobenzene	Insufficient information, temporarily unable to evaluate
2,4-dinitrotoluene	Insufficient information, temporarily unable to evaluate

1-chloro-2,4-dinitrobenzene	Insufficient information, temporarily unable to evaluate
3,4-dinitrotoluene	Insufficient information, temporarily unable to evaluate
2,4,6-trinitrotoluene	Insufficient information, temporarily unable to evaluate
N-hexane	Insufficient information, temporarily unable to evaluate

◆ Other

Not applicable.

3 Composition/information on ingredients

3.1 Substance

Not applicable

3.2 Mixture

Component	Weight % content(or range)	Classification according to Regulation (EC) No. 1272/2008 with amendment 2023/707 [CLP]	Specific Conc. Limits, M-factors
Nitrobenzene CAS : 98-95-3 EC : 202-716-0 Index No. : 609-003-00-7	0.03	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 2, H351; Reproductive toxicity, Category 1B, H360; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412	-
2-nitrotoluene CAS : 88-72-2 EC : 201-853-3 Index No. : 609-065-00-5	0.03	Acute Toxicity - Oral, Category 4, H302; Germ cell mutagenicity, Category 1B, H340; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
3-nitrotoluene CAS : 99-08-1 EC : 202-728-6 Index No. : -	0.03	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
4-nitrotoluene CAS : 99-99-0 EC : 202-808-0 Index No. : 609-006-00-3	0.03	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
1-chloro-3-nitrobenzene CAS : 121-73-3 EC : 204-496-1 Index No. : -	0.015	Acute Toxicity - Oral, Category 4, H302; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400	-
1-chloro-4-nitrobenzene CAS : 100-00-5 EC : 202-809-6 Index No. : 610-005-00-5	0.015	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 2, H351; Specific target organ toxicity - repeated	-

		exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	
1-chloro-2-nitrobenzene CAS : 88-73-3 EC : 201-854-9 Index No. : -	0.015	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Carcinogenicity, Category 1B, H350; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
1,3-dinitrobenzene CAS : 99-65-0 EC : 202-776-8 Index No. : 609-004-00-2	0.015	Acute Toxicity - Oral, Category 2, H300; Acute Toxicity - Dermal, Category 1, H310; Acute Toxicity - Inhalation, Category 2, H330; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
1,4-dinitrobenzene CAS : 100-25-4 EC : 202-833-7 Index No. : 609-004-00-2	0.015	Acute Toxicity - Oral, Category 2, H300; Acute Toxicity - Dermal, Category 1, H310; Acute Toxicity - Inhalation, Category 2, H330; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
2,6-dinitrotoluene CAS : 606-20-2 EC : 210-106-0 Index No. : 609-049-00-8	0.015	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 3, H412	-
1,2-dinitrobenzene CAS : 528-29-0 EC : 208-431-8 Index No. : 609-004-00-2	0.015	Acute Toxicity - Oral, Category 2, H300; Acute Toxicity - Dermal, Category 1, H310; Acute Toxicity - Inhalation, Category 2, H330; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
2,4-dinitrotoluene CAS : 121-14-2 EC : 204-450-0 Index No. : 609-007-00-9	0.015	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment -	-

		short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	
1-chloro-2,4-dinitrobenzene CAS : 97-00-7 EC : 202-551-4 Index No. : -	0.015	Acute Toxicity - Oral, Category 4, H302; Acute Toxicity - Dermal, Category 2, H310; Skin Corrosion/Irritation, Category 2, H315; Sensitization - skin, Category 1, H317; Serious eye damage/irritation, Category 1, H318; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-
3,4-dinitrotoluene CAS : 610-39-9 EC : 210-222-1 Index No. : 609-051-00-9	0.015	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Germ cell mutagenicity, Category 2, H341; Carcinogenicity, Category 1B, H350; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
2,4,6-trinitrotoluene CAS : 118-96-7 EC : 204-289-6 Index No. : 609-008-00-4	0.015	Explosives, Division 1.1, H201; Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Acute Toxicity - Inhalation, Category 3, H331; Specific target organ toxicity - repeated exposure, Category 2, H373; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-
N-hexane CAS : 110-54-3 EC : 203-777-6 Index No. : 601-037-00-0	99.715	Flammable liquids, Category 2, H225; Aspiration hazard, Category 1, H304; Skin Corrosion/Irritation, Category 2, H315; Specific target organ toxicity - single exposure; narcotic effects, Category 3, H336; Reproductive toxicity, Category 2, H361; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 2, H411	-

4 First-aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Ingestion	Rinse mouth. Do NOT induce vomiting. Rest. Refer for medical attention.
Inhalation	Fresh air, rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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4.3 Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures**5.1 Extinguishing media**

Suitable extinguishing media	Use extinguishing media suitable for surrounding area.
Unsuitable extinguishing media	There is no restriction on the type of extinguisher which may be used.

5.2 Specific hazards arising from the substance or mixture

1	Development of hazardous combustion gases or vapor possible in the event of fire.
2	May expansion or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

1	Use personal protective equipment, do not breathe gas/mist/vapour/spray.
2	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
3	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1	Cut off the source of the leak as much as possible.
2	Keep leaks in a ventilated place.
3	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
4	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
5	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.

6.4 Reference to other sections

1	Personal Protective Equipment advice is contained in Section 8 of the SDS.
2	Disposal considerations advice is contained in Section 13 of the SDS.

7 Handling and storage

7.1 Precautions for safe handling

◆ Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.

◆ Measures to prevent fire

1	Keep away from heat/sparks/open flames/ hot surfaces.
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◆ Measures to prevent aerosol and dust generation

1	Not applicable.
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◆ Advice on general occupational hygiene

1	Wash hands and face after using the substances.
2	Replace the contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

7.3 Specific end use(s)

1	In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.
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8 Exposure controls/personal protection

8.1 Control parameters

◆ Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
Nitrobenzene	Japan - JSOH(2024–2025)	1	5	-	-
	Permissible exposure standards for workers in the workplace	1	5	2	10
	European Union	0.2	1	-	-
	France	0.2	1	-	-
	Germany (AGS)	0.1	0.51	0.4	2.04
	Germany (DFG)	0.1	0.51	0.4	2.04
2-nitrotoluene	Permissible exposure standards for workers in the workplace	2	11	4	16.5
	Austria	-	0.5	-	2

	Denmark	2	12	4	24
	Finland	2	11	4	23
	Ireland	2	11	-	-
	Latvia	-	3	-	-
3-nitrotoluene	Permissible exposure standards for workers in the workplace	2	11	4	16.5
	France	2	11	-	-
	Austria	2	11	8	44
	Denmark	2	12	4	24
	Finland	2	11	4	23
	Ireland	2	11	-	-
4-nitrotoluene	Permissible exposure standards for workers in the workplace	2	11	4	16.5
	Austria	2	11	8	44
	Denmark	2	12	4	24
	Finland	2	11	4	23
	Ireland	2	11	-	-
	Latvia	-	3	-	-
1-chloro-4-nitrobenzene	Permissible exposure standards for workers in the workplace	-	1	-	2
	Japan - JSOH(2024-2025)	0.1	0.64	-	-
	United Kingdom	-	1	-	2
	Austria	0.075	0.5	0.3	2
	Belgium	0.1	0.65	-	-
	Denmark	0.1	0.64	0.2	1.28
1,3-dinitrobenzene	Japan - JSOH(2024-2025)	0.15	1	-	-
	Permissible exposure standards for workers in the workplace	0.15	1	0.45	2
	Belgium	0.15	1	-	-
	Denmark	0.15	1	0.3	2
	Finland	-	1	-	3
	Ireland	0.15	1	0.5	-

1,4-dinitrobenzene	Japan - JSOH(2024–2025)	0.15	1	-	-
	Permissible exposure standards for workers in the workplace	0.15	1	0.45	2
	Belgium	0.15	1	-	-
	Denmark	0.15	1	0.3	2
	Finland	-	1	-	3
	Ireland	0.15	1	0.5	3
2,6-dinitrotoluene	Austria	0.007	0.05	0.028	0.2
	Denmark	-	0.15	-	0.3
	Finland	-	0.2	-	-
	Latvia	-	1	-	-
	Norway	-	0.15	-	-
	Spain	-	0.15	-	-
1,2-dinitrobenzene	Japan - JSOH(2024–2025)	0.15	1	-	-
	Permissible exposure standards for workers in the workplace	0.15	1	0.45	2
	Belgium	0.15	1	-	-
	Denmark	0.15	1	0.3	2
	Finland	-	1	-	3
	Ireland	0.15	1	0.5	3
2,4-dinitrotoluene	Denmark	-	0.15	-	0.3
	Finland	-	0.2	-	-
	Latvia	-	1	-	-
	Norway	-	0.15	-	-
	Spain	-	0.15	-	-
	Sweden	-	0.15	-	0.3
1-chloro-2,4-dinitrobenzene	Latvia	-	0.05	-	-
	Romania	-	-	-	1
3,4-dinitrotoluene	Austria	-	1.5	-	6
	Denmark	-	0.15	-	0.3
	Finland	-	0.2	-	-
	Latvia	-	1	-	-
	Norway	-	0.15	-	-
	Spain	-	0.15	-	-

2,4,6-trinitrotoluene	Permissible exposure standards for workers in the workplace	-	0.5	-	1.5
	Germany (AGS)	0.01	0.1	0.02	0.2
	United Kingdom	-	0.5	-	-
	Austria	-	0.1(inhalable aerosol)	-	0.2(inhalable aerosol)
	Belgium	-	0.1	-	-
	Denmark	-	0.1	-	0.2
N-hexane	Japan - JSOH(2024–2025)	40	140	-	-
	Permissible exposure standards for workers in the workplace	50	176	75	220
	European Union	20	72	-	-
	France	20	72	-	-
	Germany (AGS)	50	180	400	1440
	Germany (DFG)	50	180	400	1440

◆ Biological limit values

Component	Standard	Biological monitoring index	Biological limits value	Sampling time	Remark
Nitrobenzene	USA -ACGIH	Methemoglobin(Hemoglobin in blood)	5%	During or end of shift	
N-hexane	USA -ACGIH	2,5-Hexanedione, without hydrolysis(Urine)	0.5mg/L	End of shift	

◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 and GBZ/T 160 series standard Determination of toxic substances in workplace air.

◆ Derived No effect level (DNEL)

Component	Route of exposure	DNEL for Workers			
		Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Nitrobenzene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
2-nitrotoluene	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

e	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
N-hexane	Inhalation	No data available	No data available	No data available	75 mg/m ³
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)

Component	A	B	C	D	E	F	G	H
2,4,6-trinitrotoluene	1 µg/L	100 ng/L	100 µg/L	10 µg/kg sediment dw	1 µg/kg sediment dw	No hazard identified	10 µg/kg soil dw	620 g/kg food
N-hexane	No data available	No data available	No data available	No data available	No data available	No hazard identified	No data available	No potential for bioaccumulation

Note 1:

A: Freshwater; B: Seawater; C: Sewage treatment plant; D: Sediment (freshwater); E: Sediment (seawater); F: Air; G: Soil; H: Secondary poisoning (Hazard for Predators).

Note 2:

The PNEC values of the remaining components not shown in the product are not available yet.

8.2 Exposure controls

8.2.1 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

8.2.2 Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear appropriate chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear appropriate chemical protective clothing and chemical resistant shoes.

8.2.3 Environmental exposure controls

Environmental exposure controls	No information available
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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Light yellow transparent liquid
Colour	Light yellow transparent liquid

Odor	No information available
Odor threshold	No information available
pH	8.1 (20°C, 1g/L, Calculated,Nitrobenzene)
Melting point/freezing point(°C)	5 (Nitrobenzene)
Initial boiling point and boiling range(°C)	211 (Nitrobenzene)
Flash point(Closed cup,°C)	88 (Nitrobenzene)
Evaporation rate	No information available
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit : 40 (Nitrobenzene) ; Lower limit : 1.8 (Nitrobenzene)
Vapor pressure	20Pa (20°C,Nitrobenzene)
Vapor density(Air = 1)	4.2 (Nitrobenzene)
Relative density(Water=1)	1.2 (Nitrobenzene)
Solubility	1.9 g/L (20 °C(pH=6.5),Nitrobenzene)
n-octanol/water partition coefficient	1.86 (Nitrobenzene)
Auto-ignition temperature(°C)	480 (Nitrobenzene)
Decomposition temperature(°C)	> 350 (Nitrobenzene)
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Particle characteristics	Not applicable

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Information with regard to physical hazard classes	No information available
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9.2.2 Other safety characteristics

Other safety characteristics	No information available
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10 Stability and reactivity

Stability and reactivity

10.1 Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
10.2 Chemical stability	Stable under proper operation and storage conditions.
10.3 Possibility of hazardous reactions	In contact with ammonia, strong inorganic alkalis, active metals, alkali carbonates, metal oxides or metal alkoxides may result in an explosion. In contact with an open flame may cause a fire or explosion.
10.4 Conditions to avoid	Incompatible materials, heat, flame and spark.
10.5 Incompatible materials	Ammonia, strong inorganic alkalis, active metal, alkali metal carbonates, metal oxides, metal alkoxides, and nitric acid. Oxidantss and halogen.
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 with amendment 2023/707

15 Mix Nitrobenzene in n-hexane	
Skin corrosion/irritation	Causes skin irritation(Category 2)
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Suspected of damaging fertility(Category 2)
STOT-single exposure	May cause drowsiness or dizziness(Category 3)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure(blood, nervous system, erythrocytes, liver, kidneys, spleen, nose respiratory epithelium)(Category 1)
Aspiration hazard	May be fatal if swallowed and enters airways(Category 1)
Germ cell mutagenicity	Based on available data, the classification criteria are not met

Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
4-nitrotoluene	1960mg/kg(Rat)	> 16000mg/kg(Rat)	No information available
2-nitrotoluene	891mg/kg(Rat)	No information available	No information available
N-hexane	25000mg/kg(Rat)	No information available	169.188mg/L(Rat)
1-chloro-2-nitrobenzene	268mg/kg(Rat)	400mg/kg(Rabbit)	No information available
1-chloro-3-nitrobenzene	420mg/kg(Rat)	890mg/kg(Rat)	3.2mg/L(Rat)
1-chloro-4-nitrobenzene	420mg/kg(Rat)	3040mg/kg(Rabbit)	No information available
3-nitrotoluene	1072mg/kg(Rat)	No information available	No information available
2,6-dinitrotoluene	177mg/kg(Rat)	No information available	No information available
2,4,6-trinitrotoluene	607mg/kg(Rat)	No information available	No information available
3,4-dinitrotoluene	807mg/kg(Rat)	No information available	No information available
Nitrobenzene	349mg/kg(Rat)	760mg/kg(Rabbit)	556ppmV(Rat)
2,4-dinitrotoluene	268mg/kg(Rat)	No information available	No information available
1,3-dinitrobenzene	59.5mg/kg(Rat)	1900mg/kg(Rabbit)	No information available
1-chloro-2,4-dinitrobenzene	640mg/kg(Rat)	130mg/kg(Rabbit)	No information available

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
Nitrobenzene	Category 2B	Category R
2-nitrotoluene	Category 2A(Remark 1)	Category R
3-nitrotoluene	Category 3	Not Listed
4-nitrotoluene	Category 3	Not Listed
1-chloro-3-nitrobenzene	Category 2B(Remark 2)	Not Listed
1-chloro-4-nitrobenzene	Category 2B	Not Listed

1-chloro-2-nitrobenzene	Category 2B	Not Listed
1,3-dinitrobenzene	Not Listed	Not Listed
1,4-dinitrobenzene	Not Listed	Not Listed
2,6-dinitrotoluene	Category 2B	Not Listed
1,2-dinitrobenzene	Not Listed	Not Listed
2,4-dinitrotoluene	Category 2B	Not Listed
1-chloro-2,4-dinitrobenzene	Not Listed	Not Listed
3,4-dinitrotoluene	Not Listed	Not Listed
2,4,6-trinitrotoluene	Category 3	Not Listed
N-hexane	Not Listed	Not Listed

Remark 1: Overall evaluation upgraded to Group 2A with supporting evidence from other relevant data; Remark 2: see 2-Chloronitrobenzene

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Component	Endocrine disrupting properties
Nitrobenzene	No information available
2-nitrotoluene	No information available
3-nitrotoluene	No information available
4-nitrotoluene	No information available
1-chloro-3-nitrobenzene	No information available
1-chloro-4-nitrobenzene	No information available
1-chloro-2-nitrobenzene	No information available
1,3-dinitrobenzene	No information available
1,4-dinitrobenzene	No information available
2,6-dinitrotoluene	No information available
1,2-dinitrobenzene	No information available
2,4-dinitrotoluene	No information available
1-chloro-2,4-dinitrobenzene	No information available
3,4-dinitrotoluene	No information available
2,4,6-trinitrotoluene	No information available
N-hexane	No information available

11.2.2 Other Information

Other Information	See Section 11.1
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12 Ecological information

12.1 Toxicity

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
4-nitrotoluene	LC ₅₀ : 37mg/L (96h)(Fish)	EC ₅₀ : 9.8mg/L (48h)(Crustaceans)	ErC ₅₀ : 10mg/L (72h)(Algae)
2-nitrotoluene	LC ₅₀ : 37.1mg/L (96h)(Fish)	EC ₅₀ : 5.4mg/L (48h)(Crustaceans)	ErC ₅₀ : 22mg/L (72h)(Algae)
N-hexane	LC ₅₀ : 57.8mg/L (96h)(Fish)	No information available	No information available
1-chloro-2-nitrobenzene	LC ₅₀ : 34.6mg/L (96h)(Fish)	EC ₅₀ : 3.2mg/L (48h)(Crustaceans)	ErC ₅₀ : 6.9mg/L (96h)(Algae)
1-chloro-3-nitrobenzene	LC ₅₀ : 18.8mg/L (96h)(Fish)	EC ₅₀ : 15.1mg/L (48h)(Crustaceans)	ErC ₅₀ : 1.9mg/L (96h)(Algae)
1,4-dinitrobenzene	LC ₅₀ : 0.48mg/L (96h)(Fish)	EC ₅₀ : 0.57mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.15mg/L (72h)(Algae)
1-chloro-4-nitrobenzene	LC ₅₀ : 14.4mg/L (96h)(Fish)	EC ₅₀ : 2.7mg/L (48h)(Crustaceans)	ErC ₅₀ : 4.9mg/L (96h)(Algae)
3-nitrotoluene	LC ₅₀ : 30mg/L (96h)(Fish)	EC ₅₀ : 7.4mg/L (48h)(Crustaceans)	ErC ₅₀ : 14mg/L (96h)(Algae)
2,6-dinitrotoluene	LC ₅₀ : 34mg/L (96h)(Fish)	EC ₅₀ : 20mg/L (48h)(Crustaceans)	ErC ₅₀ : 15mg/L (72h)(Algae)
2,4,6-trinitrotoluene	LC ₅₀ : 2.7mg/L (96h)(Fish)	EC ₅₀ : 9.49mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.19mg/L (72h)(Algae)
3,4-dinitrotoluene	LC ₅₀ : 1.5mg/L (96h)(Fish)	EC ₅₀ : 3.1mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.7mg/L (96h)(Algae)
Nitrobenzene	LC ₅₀ : 92mg/L (96h)(Fish)	EC ₅₀ : 35mg/L (48h)(Crustaceans)	ErC ₅₀ : 23.8mg/L (96h)(Algae)
2,4-dinitrotoluene	LC ₅₀ : 24.3mg/L (96h)(Fish)	EC ₅₀ : 30.6mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.97mg/L (96h)(Algae)
1,2-dinitrobenzene	LC ₅₀ : 1.3mg/L (96h)(Fish)	EC ₅₀ : 3.0mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.48mg/L (72h)(Algae)
1,3-dinitrobenzene	LC ₅₀ : 12mg/L (96h)(Fish)	EC ₅₀ : 35mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.39mg/L (72h)(Algae)
1-chloro-2,4-dinitrobenzene	LC ₅₀ : 0.71mg/L (96h)(Fish)	EC ₅₀ : 0.66mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.18mg/L (72h)(Algae)

Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
4-nitrotoluene	NOEC : 0.8mg/L(Fish)	NOEC : 2.0mg/L(Crustaceans)	NOEC : 1.9mg/L(Algae)
2-nitrotoluene	NOEC : 1.9mg/L(Fish)	No information available	No information available
1-chloro-2-nitrobenzene	NOEC : 0.534mg/L(Fish)	No information available	No information available
1,4-dinitrobenzene	No information available	No information available	NOEC : 0.0038mg/L(Algae)
3-nitrotoluene	NOEC : 2mg/L(Fish)	No information available	No information available
2,6-dinitrotoluene	No information available	NOEC : 2.5mg/L(Crustaceans)	NOEC : 5mg/L(Algae)
1,2-dinitrobenzene	No information available	No information available	NOEC : 0.021mg/L(Algae)

1,3-dinitrobenzene	No information available	No information available	NOEC : 0.063mg/L(Algae)
1-chloro-2,4-dinitrobenzene	NOEC : 0.05mg/L(Fish)	NOEC : 0.18mg/L(Crustaceans)	NOEC : 0.0060mg/L(Algae)

12.2 Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
2-nitrotoluene	High	High
3-nitrotoluene	High	High
4-nitrotoluene	High	High
1-chloro-3-nitrobenzene	High	High
1-chloro-4-nitrobenzene	High	High
1-chloro-2-nitrobenzene	High	High
1,4-dinitrobenzene	High	High
2,6-dinitrotoluene	High(Half-life = 360 days)	Medium(Half-life = 118.33 days)
1,2-dinitrobenzene	High	High
2,4-dinitrotoluene	High(Half-life = 360 days)	Medium(Half-life = 118.33 days)
1-chloro-2,4-dinitrobenzene	High	High
N-hexane	Low	Low

12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
2-nitrotoluene	Low	BCF=29.9
3-nitrotoluene	Low	BCF=12
4-nitrotoluene	Low	BCF=7.2
1-chloro-3-nitrobenzene	Low	Log Kow=2.46
1-chloro-4-nitrobenzene	Low	BCF=20.9
1-chloro-2-nitrobenzene	Low	BCF=22.3
1,4-dinitrobenzene	Low	Log Kow=1.46-1.49
2,6-dinitrotoluene	Low	Log Kow=2.05
1,2-dinitrobenzene	Low	Log Kow=1.69
2,4-dinitrotoluene	High	BCF=2507
1-chloro-2,4-dinitrobenzene	Low	BCF=44
N-hexane	Medium	Log Kow=3.9

12.4 Mobility in soil

Component	log Koc	Remark
Nitrobenzene	2.07	
2-nitrotoluene	2.32	20 °C

3-nitrotoluene	2.49	
4-nitrotoluene	2.490	
1-chloro-3-nitrobenzene	2.56	20 °C
1-chloro-4-nitrobenzene	2.490	
1-chloro-2-nitrobenzene	2.46	25 °C
1,4-dinitrobenzene	2.343	
2,6-dinitrotoluene	2.570	
1,2-dinitrobenzene	2.351	
2,4-dinitrotoluene	2.561	
1-chloro-2,4-dinitrobenzene	2.561	
2,4,6-trinitrotoluene	1.65	
N-hexane	≥2.37 - ≤3.16	20 °C , pH=7.0

12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Nitrobenzene	Insufficient information, temporarily unable to evaluate
2-nitrotoluene	Insufficient information, temporarily unable to evaluate
3-nitrotoluene	Insufficient information, temporarily unable to evaluate
4-nitrotoluene	Insufficient information, temporarily unable to evaluate
1-chloro-3-nitrobenzene	Insufficient information, temporarily unable to evaluate
1-chloro-4-nitrobenzene	Insufficient information, temporarily unable to evaluate
1-chloro-2-nitrobenzene	Insufficient information, temporarily unable to evaluate
1,3-dinitrobenzene	Insufficient information, temporarily unable to evaluate
1,4-dinitrobenzene	Insufficient information, temporarily unable to evaluate
2,6-dinitrotoluene	Insufficient information, temporarily unable to evaluate
1,2-dinitrobenzene	Insufficient information, temporarily unable to evaluate
2,4-dinitrotoluene	Insufficient information, temporarily unable to evaluate
1-chloro-2,4-dinitrobenzene	Insufficient information, temporarily unable to evaluate
3,4-dinitrotoluene	Insufficient information, temporarily unable to evaluate
2,4,6-trinitrotoluene	Not PBT/vPvB
N-hexane	Not PBT/vPvB

12.6 Endocrine disrupting properties

Component	Endocrine disrupting properties
Nitrobenzene	No information available
2-nitrotoluene	No information available
3-nitrotoluene	No information available

4-nitrotoluene	No information available
1-chloro-3-nitrobenzene	No information available
1-chloro-4-nitrobenzene	No information available
1-chloro-2-nitrobenzene	No information available
1,3-dinitrobenzene	No information available
1,4-dinitrobenzene	No information available
2,6-dinitrotoluene	No information available
1,2-dinitrobenzene	No information available
2,4-dinitrotoluene	No information available
1-chloro-2,4-dinitrobenzene	No information available
3,4-dinitrotoluene	No information available
2,4,6-trinitrotoluene	No information available
N-hexane	No information available

12.7 Other adverse effects

	No information available
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13 Disposal considerations

13.1 Waste treatment methods

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	Not applicable
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IMDG-CODE

IMDG-CODE	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
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IATA-DGR

IATA-DGR	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
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UN-ADR

UN-ADR	NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
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Special precautions for user

	Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.
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Maritime transport in bulk according to IMO instruments

- ◆ Transport in bulk according to Annex II of MARPOL and the IBC code

	Not Available
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- ◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available
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- ◆ Transport in bulk in accordance with the IGC Code

	Not Available
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15 Regulatory information

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

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Nitrobenzene	√	√	√	√	√	√	√	√	√	√	√	√	√
2-nitrotoluene	√	√	√	√	√	√	√	√	√	×	√	√	√
3-nitrotoluene	√	√	√	√	√	√	√	√	√	×	×	√	√
4-nitrotoluene	√	√	√	√	√	√	√	√	√	×	×	√	√
1-chloro-3-nitrobenzene	√	√	√	×	√	√	×	√	√	×	√	√	√
1-chloro-4-nitrobenzene	√	√	√	√	√	√	√	√	√	×	√	√	√
1-chloro-2-nitrobenzene	√	√	√	×	√	√	√	√	√	×	√	√	√
1,3-dinitrobenzene	√	√	√	√	√	√	√	√	√	×	×	√	√
1,4-dinitrobenzene	√	√	√	√	√	√	√	√	√	×	√	√	√
2,6-dinitrotoluene	√	√	√	√	×	×	√	√	√	×	√	√	√
1,2-dinitrobenzene	√	√	×	×	√	√	√	√	√	×	×	√	√
2,4-dinitrotoluene	√	√	√	√	√	√	√	√	√	×	√	√	√
1-chloro-2,4-dinitrobenzene	√	√	√	√	√	√	√	√	√	×	√	√	√
3,4-dinitrotoluene	×	√	√	×	×	×	√	×	√	×	×	√	√
2,4,6-trinitrotoluene	√	√	√	√	√	√	√	√	√	×	√	√	√
N-hexane	√	√	√	√	√	√	√	√	√	√	√	√	√

- 【A】 China Inventory of Existing Chemical Substances(IECSC)
 【B】 European Inventory of Existing Commercial Chemical Substances(EC inventory)
 【C】 United States Toxic Substances Control Act Inventory(TSCA)
 【D】 Canadian Domestic Substances List(DSL)
 【E】 New Zealand Inventory of Chemicals(NZIoC)
 【F】 Philippines Inventory of Chemicals and Chemical Substances(PICCS)
 【G】 Korea Existing Chemicals Inventory(KECL)
 【H】 Australian. Inventory of Industrial Chemical (AIICS)
 【I】 Japan Inventory of Existing & New Chemical Substances(ENCS)
 【J】 Thailand Existing Chemicals Inventory(TECI)
 【K】 Mexico National Inventory of Chemical Substances (INSQ)
 【L】 Russia Inventory of Existing Substances(DRAFT)
 【M】 Inventory of Existing Chemical Substances in Taiwan, China (TCSI)

List of Chemical Substances under International Conventions

Component	A	B	C
Nitrobenzene	x	x	x
2-nitrotoluene	x	x	x
3-nitrotoluene	x	x	x
4-nitrotoluene	x	x	x
1-chloro-3-nitrobenzene	x	x	x
1-chloro-4-nitrobenzene	x	x	x
1-chloro-2-nitrobenzene	x	x	x
1,3-dinitrobenzene	x	x	x
1,4-dinitrobenzene	x	x	x
2,6-dinitrotoluene	x	x	x
1,2-dinitrobenzene	x	x	x
2,4-dinitrotoluene	x	x	x
1-chloro-2,4-dinitrobenzene	x	x	x
3,4-dinitrotoluene	x	x	x
2,4,6-trinitrotoluene	x	x	x
N-hexane	x	x	x

【A】 The Montreal Protocol on Substances that Deplete the Ozone Layer

【B】 Stockholm Convention on Persistent Organic Pollutants (POPs)

【C】 Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade

European chemical inventory

Component	A	B	C	D	E	F	G	H	I
Nitrobenzene	√	x	√	√	√	x	x	x	x
2-nitrotoluene	x	x	√	√	√	x	x	x	x
3-nitrotoluene	x	x	x	√	√	x	x	x	x
4-nitrotoluene	x	x	x	√	√	x	x	x	x
1-chloro-3-nitrobenzene	x	x	x	√	√	x	x	x	x
1-chloro-4-nitrobenzene	x	x	x	√	√	x	x	x	x
1-chloro-2-nitrobenzene	x	x	x	√	√	x	x	x	x
1,3-dinitrobenzene	x	x	x	√	x	x	x	x	x
1,4-dinitrobenzene	x	x	x	√	x	x	x	x	x
2,6-dinitrotoluene	x	x	√	√	x	x	x	x	x
1,2-dinitrobenzene	x	x	x	√	x	x	x	x	x
2,4-dinitrotoluene	√	√	√	√	x	x	x	x	x
1-chloro-2,4-dinitrobenzene	x	x	x	√	√	x	x	x	x
3,4-dinitrotoluene	x	x	√	√	x	x	x	x	x

2,4,6-trinitrotoluene	x	x	x	√	√	x	x	x	x
N-hexane	x	x	x	√	√	√	x	x	x

- [A] Candidate list of Substances of Very High Concern for authorization under EU REACH regulation
 [B] Substances requiring authorisation under EU REACH regulation
 [C] Substances restricted under EU REACH
 [D] Pre-registered substances under EU REACH
 [E] Registered substances under EU REACH
 [F] Substance Evaluation – CoRAP under EU REACH
 [G] List of priority substances under EU water policy (Directive 2455/2001/EC)
 [H] Substances subject to POPs Regulation
 [I] Substances proposed as POPs

Note:

“√” Indicates that the substance included in the regulations.

“x” No data or not included in the regulations.

German water hazard class(WGK)

Component	WGK	Remark
Nitrobenzene	WGK 3	
2-nitrotoluene	WGK 3	
3-nitrotoluene	WGK 3	
4-nitrotoluene	WGK 3	
1-chloro-3-nitrobenzene	WGK 3	
1-chloro-4-nitrobenzene	WGK 3	
1-chloro-2-nitrobenzene	WGK 3	
1,3-dinitrobenzene	WGK 3	
1,4-dinitrobenzene	WGK 3	
2,6-dinitrotoluene	WGK 3	
1,2-dinitrobenzene	WGK 3	
2,4-dinitrotoluene	WGK 3	
1-chloro-2,4-dinitrobenzene	WGK 3	
N-hexane	WGK 3	

【WGK 1】 slightly hazardous to water

【WGK 2】 obviously hazardous to water

【WGK 3】 highly hazardous to water

【nwg】 non-hazardous to water

【awg】 hazardous to water in general

German technical instructions on air quality control(TA LUFT)

Component	TA LUFT	Remark
Nitrobenzene	Chapter 5.2.7.1.3 Substances toxic to reproduction Mass flow: 2,5 g/hr or Mass conc.: 1 mg/m ³	
2-nitrotoluene	Chapter 5.2.7.1.1 Carcinogenic Substances The substance must be assigned to the class (I, II or III) whose substances have the nearest potency. We can not accomplish this	

	evaluation due to insufficiency of data. Carcinogenic substances not mentioned by name and for which no information on potency is available should be assigned to Class I as a precautionary measure.	
3-nitrotoluene	Chapter 5.2.5 Organic Substances. The following values, specified as overall carbon, are in all not allowed to be exceeded in exhaust gas: Mass flow: 0,50 kg/hr or Mass conc.: 50 mg/m ³ At old units with an annual mass flow till 1,5 Mg/a, specified as total carbon, the emissions in exhaust gas are not allowed to exceed 1,5 kg/h.	
4-nitrotoluene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
1-chloro-3-nitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
1-chloro-4-nitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
1-chloro-2-nitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
1,3-dinitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
1,4-dinitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
2,6-dinitrotoluene	Chapter 5.2.7.1.1 Carcinogenic substances. Class II. As minimum requirement, the following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 1,5 g/hr or Mass conc.: 0,5 mg/m ³	
1,2-dinitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	
2,4-dinitrotoluene	Chapter 5.2.7.1.1 Carcinogenic substances. Class II. As minimum requirement, the following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 1,5 g/hr	

	or Mass conc.:0,5 mg/m ³	
1-chloro-2,4-dinitrobenzene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m ³	
3,4-dinitrotoluene	Chapter 5.2.7.1.1 Carcinogenic substances. Class II. As minimum requirement, the following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:1,5 g/hr or Mass conc.:0,5 mg/m ³	
2,4,6-trinitrotoluene	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m ³	
N-hexane	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas:Mass flow:0,10 kg/hr or Mass conc.:20 mg/m ³	

German technical rules for hazardous substances(TRGS)

Component	TRGS	Remark
Nitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 402 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
2-nitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
3-nitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
4-nitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724	
1-chloro-3-nitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
1-chloro-4-nitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
1-chloro-2-nitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724	
1,3-dinitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
1,4-dinitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS	

	500 TRGS 509 TRGS 510 TRGS 800	
2,6-dinitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
1,2-dinitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800	
2,4-dinitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
1-chloro-2,4-dinitrobenzene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 907	
3,4-dinitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 410 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724 TRGS 560	
2,4,6-trinitrotoluene	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 402 TRGS 500 TRGS 510 TRGS 800	
N-hexane	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 402 TRGS 401 TRGS 500 TRGS 509 TRGS 510 TRGS 800 TRGS 720 TRGS 721 TRGS 722 TRGS 723 TRGS 724	

15.2 Chemical safety assessment

	No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.
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16 Other information

Information on revision

Creation Date	2026/01/08
Revision Date	-
Reason for revision	-

Reference

- [1] IPCS: The International Chemical SafetyCards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.

- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
 [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.