



Safety Data Sheet

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

Product identifier:

Product name: 4-Nitroaniline(p-)

SDS No. : 5466E-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Reproductive toxicity: Category 2

Specific target organ toxicity – single exposure: Category 1(blood)

Specific target organ toxicity – single exposure: Category 3(Narcosis)

Specific target organ toxicity – repeated exposure: Category 1(blood)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 2

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

Harmful if swallowed

Suspected of damaging fertility or the unborn child

Causes damage to organs after single exposure(blood)

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure(blood)

Harmful to aquatic life

Toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Response

Collect spillage.



Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Rinse mouth.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

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

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Ingredient name:4-Nitroaniline(p-)

Content (%):98(min)

Chemical formula:NO₂C₆H₄NH₂

Chemicals No, Japan:3-392

CAS No.:100-01-6

MW:138.13

ECNO:202-810-1

Note : The figures shown above are not the specifications of the product.

4. First-aid measures**Descriptions of first-aid measures****General measures**

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

**Advice for firefighters****Specific fire-fighting measures**

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures**Personnel precautions, protective equipment and emergency procedures**

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage**Precautions for safe handling****Preventive measures**

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Storage**Conditions for safe storage**

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(4-Nitroaniline(p-))

ACGIH(1992) TWA: 3mg/m³ (MeHb-emia; liver dam; eye irr)

Notation

(4-Nitroaniline(p-))

Skin

OSHA-PEL

(4-Nitroaniline(p-))

TWA: 1ppm, 6mg/m³

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals or powder

Color: Yellow to light yellow-red

Odor: Practically odorless to characteristic odor

Melting point/Freezing point: 148°C

Boiling point or initial boiling point: (4-Nitroaniline(p-))332°C

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point: (4-Nitroaniline(p-))199°C

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 0.08 g/100 ml (18.5°C)

n-Octanol/water partition coefficient: log Pow2.66

Vapor pressure: 0.2 Pa (20°C)

Density and/or relative density: 1.4 g/cm³

Relative vapor density (Air=1): 4.8

No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Dust explosion possible if in powder or granular form, mixed with air.

May explode on heating. On combustion, forms toxic fumes of nitrogen oxides. Reacts with strong acids, strong oxidants and strong reducing agents. Reacts with organic materials in the presence of moisture. This generates fire hazard. (ICSC 0308)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong acids, Strong oxidizing agents, Strong reducing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

rat LD50=1049mg/kg (cal.)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

(4-Nitroaniline(p-))

ACGIH-A4(1992) : Not Classifiable as a Human Carcinogen

Reproductive toxicity

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

cat. 2; ACGIH 7th, 2001

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

blood (CERI hazard data book, 2002)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

narcotic effect (CERI hazard data book, 2002)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

blood (CERI hazard data book, 2002)



Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.

-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

Crustacea (Daphnia magna) EC50=22mg/L/48hr (MOE Japan, 2011)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(4-Nitroaniline(p-))

Algae (Pseudokirchneriella subcapitata) NOEC=0.94mg/L/72hr (MOE Japan, 2011)

Water solubility

(4-Nitroaniline(p-))

0.08 g/100 ml (18.5°C) (ICSC, 2001)

Persistence and degradability

(4-Nitroaniline(p-))

Not degrade rapidly (BOD_Degradation : 0% (Registered chemicals data check & review, 1977))

Bioaccumulative potential

(4-Nitroaniline(p-))

log Pow=2.66 (ICSC, 2001); BCF=3.6 (Check & Review, Japan)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 1661

UN Proper Shipping Name :

NITROANILINES (o-, m-, p-)

Class or division (Transport hazard class) : 6.1

Packing group : II

ERG GUIDE No.: 153

Special provisions No.: 279

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1661

Proper Shipping Name :



NITROANILINES (o-, m-, p-)

Class or division : 6.1

Packing group : II

Special provisions No.: 279

IATA Dangerous Goods Regulations

UN No.: 1661

Proper Shipping Name :

NITROANILINES (o-, m-, p-)

Class or division : 6.1

Hazard labels : Toxic

Packing group : II

Special provisions No.: A113

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Specific target organ toxicity – repeated exposure: cat.1

4-Nitroaniline(p-)

Hazardous to the aquatic environment – long-term hazard: cat.1, 2

4-Nitroaniline(p-)

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

4-Nitroaniline(p-)

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed

Repr. 2: H361 Suspected of damaging fertility or the unborn child

STOT SE 1: H370 Causes damage to organs after single exposure

STOT SE 3: H336 May cause drowsiness or dizziness

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Aquatic Acute 3: H402 Harmful to aquatic life

Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (61th Edition) 2020

Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2020 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling,



and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2019).