

Safety Data Sheet

1. Product and company identification

Product name : Urea
Name of manufacturer : KANTO CHEMICAL CO., INC.
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan
Name of section : Reagent division, catalog and products information section
Telephone number : +81-3-6214-1090
Facsimile number : +81-3-3241-1047
Mail address : BC32@gms.kanto.co.jp
SDS No. : 43009
Product numbers applied by the SDS : 43008, 43009

2. Summary of danger and Hazard

GHS classification

Physical and chemical hazard

Flammable solids : Out of category
Pyrophoric solids : Out of category

Human health hazard

Acute toxicity(oral) : Out of category
Acute toxicity(dermal)
: Out of category

Skin corrosion/irritation

: Category 2

Serious eye damage/eye irritation

: Category 2A

Environmental hazard

Hazardous to the aquatic environment-acute hazard
: Out of category

Hazardous to the aquatic environment-chronic hazard
: Out of category

Pictogram or symbol



Signal word : Warning

Hazard statement : Causes skin irritation
Causes serious eye irritation

Cautions

Safety measurements : Wear appropriate protective gloves, glasses, clothing, face shield, or mask.
Wash protective equipment thoroughly after use.

First-aid measures : If in eyes : Rinse cautiously with water for several minutes. Get medical treatment.
If on skin : Remove contaminated clothing and the substance. If skin irritation occurs, get medical treatment.
Wash hands thoroughly after handling.

3. Composition/Information on ingredients

Substance/Mixture : Substance

Chemical name or commercial name

: Urea

Ingredients and composition

: Urea min. 98.0%

Chemical formula : NH₂CONH₂

CAS No. : 57-13-6

TSCA Inventory : Registered

EINECS No. : 2003155

Dangerous and hazardous ingredients

: Urea

4. First aid measures

Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

Skin contact : Wash the affected areas under running water.

Eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

Ingestion : Give the victim water or salt water and induce vomiting. If necessary, get medical attention.

5. Fire fighting measures

Extinguishing media : This product is noncombustible.

Prohibited extinguishing media

: None

Particular fire fighting : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Protection for firefighters

: Firefighters should wear protective equipment.

6. Accidental release measures

Cautions for personnel : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Cautions for environment : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Removal measure : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

7. Cautions of handling and storage

Handling

Engineering measures : If necessary, wear proper protective equipment to avoid contact with skin or inhalation of dust.

Cautions for safety handling

: Avoid formation of dust and aerosols.

Storage

Adequate storage condition

: Store the bottle tightly closed in a cool, dark place because the substance is hygroscopic.

Safety adequate container materials

: Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures : Use with an enclosed system or a local exhaust ventilation.

Control parameters

ACGIH(2015) : Not established

Protective equipment

Respiration protective equipment

: If necessary, wear dust mask

Hands protective equipment

: Impervious protective gloves

Eyes protective equipment

: Safety goggles

9. Physical and chemical properties

Appearance : Crystal or crystalline powder

Color : White

Odor : Odorless or slight ammonia odor

pH : 5.6-6.2 (1% water solution, 20°C)

Boiling point : Decomposition(160°C)

Melting point : 132.7°C

Flash point : Noncombustible

Auto-ignition point : Noncombustible

Explosion characteristics

Explosion limit : Not available

Vapor pressure : Not available

Vapor density : 2.1

Density : 1.33g/cm³ (20°C)

Solubility

Solubility in solvents : Water : 51.9%(20°C)

Organic solvents ; Readily soluble in methanol, glycerol, soluble in benzene.

log Pow : -1.59

10. Stability and reactivity

Stability : Stable under normal conditions.
Reactivity : May react with strong oxidizing substances.
Incompatible conditions : Light, heat
Incompatible materials : Oxidizing substances
Hazardous decomposition products : Carbon monoxide, nitrogen oxides

11. Toxicological information

Acute toxicity : Oral : Out of category
Dermal : Out of category
Inhalation(vapor) : Not possible to classify because of insufficient data.
Inhalation(dust, mist) : Not possible to classify because of insufficient data.
rat oral LD50=14300mg/kg
mouse oral LD50=13000mg/kg
rat skin LD50=8200mg/kg

Skin corrosion/irritation : Causes skin irritation(category 2)
Although irritation is not observed to the skin of rabbits, since causes irritation moderately to the skin of humans, it was classified into category 2.

Serious eye damage/eye irritation : Causes serious eye irritation(category 2A)
Since causes redness to the eye, it was classified into category 2.

Respiratory sensitization or Skin sensitization : Respiratory sensitization : Not possible to classify because of insufficient data.
Skin sensitization : Not possible to classify because of insufficient data.

Mutagenicity : Not possible to classify because of insufficient data.
Ames test : negative but impossible to classify due to insufficient data.

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system : Not possible to classify because of insufficient data.

Specific target organ systemic toxicity single exposure : Not possible to classify because of insufficient data.

Specific target organ systemic toxicity repeated exposure : Not possible to classify because of insufficient data.

Aspiration hazard : Not possible to classify because of insufficient data.

12. Ecological information

Ecotoxicity
Fish toxicity : Acute aquatic toxicity : Out of category
Chronic aquatic toxicity : Out of category
Carp LC50=9100mg/L/96H

Persistence and degradability

: Not available

Bioaccumulative potential : Low or no bioaccumulative potential in fish or shells

Mobility in soil : Not available

13. Disposal consideration

Residual disposal : Mixed with flammable organic solvents and burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class : It is not regulated under UN regulations.

15. Regulatory information

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

16. Other information

References Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd. (1985)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253, and it has the same required elements on the Material Safety Data Sheet (MSDS) which is prepared based on JIS Z7250:2010.