Date of issue for the 1st edition : 27/Jan/2016
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Safety Data Sheet

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

Product identifier:

Product name: Formamide

Reference number(SDS):69355jis_J_E1-3

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.
Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan
Division: Quality Assurance Department
Telephone number: +81-48-986-6161
FAX: +81-48-989-2787
e-mail address: shiyaku-t@junsei.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Corrosive to metals: Category 1

HEALTH HAZARDS

Carcinogenicity: Category 2

Reproductive toxicity: Category 1B

Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)

Specific target organ toxicity - repeated exposure: Category 2 (male reproductive organs)

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

Label elements

Signal word: Danger

HAZARD STATEMENT

H290-May be corrosive to metals

H351-Suspected of causing cancer

H360-May damage fertility or the unborn child

H336-May cause drowsiness or dizziness

H373-May cause damage to organs through prolonged or repeated exposure

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep only in original packaging.

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

Use only outdoors or in a well-ventilated area.

Use personal protective equipment as required.

Response

Absorb spillage to prevent material-damage.

Get medical advice/attention if you feel unwell.

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

Storage

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

Disposal

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

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Common name, synonyms: Methanamide

Ingredient name:Formamide
Content (%):98.0 <
Chemical formula:CH3NO
Chemicals No, Japan:2-681
CAS No.:75-12-7
MW:45.04
ECNO:200-842-0

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

Components contributing to the hazard

Toxic for reproduction (Article 57c) in REACH SVHC candidate list

Formamide

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or 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/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Drowsiness. Headache. Nausea. Diarrhoea.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes. Redness of the skin.

Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, alcohol-resistant foam, dry powder, CO2 to extinguish.

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.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 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

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Absorb spillage to prevent material-damage.

Collect spillage.

Section 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Acids, Bases, Oxidizing agents should not be mixed with the chemicals.

Storage

Conditions for safe storage

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

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Store locked up.

(Incompatible storage condition)

The product may corrode metal. Do not keep in a metal container.

Container and packaging materials for safe handling

Keep only in original packaging.

Store in a corrosion resistant/specified container with a resistant inner liner.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

Section 8. Exposure controls/personal protection

Control parameters

Control value in MHLW is not available.

Adopted value

Adopted value in JSOH is not available.

ACGIH(2020) TWA: 1ppm (Hematological eff; liver cancer; developmental toxicity)

Notation･･･Skin

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.

Recommendation : filter respirator for organic gases and vapours

Hand protection

Wear protective gloves. Recommended material(s): neoprene, nitrile, butyl rubber, viton, PVC, impermeable or chemical resistant rubber

Inspect before use and replace worn or damaged gloves.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Viscous liquid

Color: Colorless-clear

Odor: None～Faint ammonia odor

Odor threshold: 150 mg/m3

Melting point/Freezing point: 1.5～3.0℃

Boiling point or initial boiling point: 210.5℃
Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit:
Lower explosion limit: 2.7 vol %
Upper explosion limit: 19 vol %
Flash point: (C.C.) 120℃
Auto-ignition temperature: > 500℃
Decomposition temperature: 180℃
Self-Accelerating Decomposition Temperature/SADT data is not available.
pH: 7.1(0.5 M aqueous solution)
Dynamic viscosity: 3.764mPas(20℃)
Kinematic viscosity: 3.33mm2/s(20℃)
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Miscible(1000g/L)
Solubility in solvent: Miscible with ethanol; very slightly soluble in diethyl ether
n-Octanol/water partition coefficient: log Pow=-1.51
Vapor pressure: 8 Pa （20℃）
Density and/or relative density: 1.13g/cm3(20℃)
Relative vapor density (Air=1): 1.6
Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.00
Particle characteristics data is not available.
Other information
Critical temperature data is not available.
Evaporation rate data is not available.
VOC data is not available.

Section 10. Stability and Reactivity

Reactivity
Reactivity data is not available.
Chemical stability
Stable under normal storage/handling conditions.
Hygroscopic.
Possibility of hazardous reactions
The vapour is heavier than air.
Decomposes at 180℃. This produces toxic and corrosive gase.
Reacts with oxidants, acids and bases. This generates fire and toxic hazard.
Attacks aluminium, brass, copper, iron, lead and some forms of plastic.
Conditions to avoid
Contact with incompatible materials.
Open flames. Heating. Moisture
Incompatible materials
Acids, Bases, Oxidizing agents
Hazardous decomposition products
Carbon oxides, Nitrogen oxides, Ammonia, Hydrogen cyanide.

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

rat LD50=3200mg/kg (SIAR, 2007)

Acute toxicity (Dermal)

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit LD50 >6000mg/kg (ACGIH 8th, 2020)

Acute toxicity (Inhalation)

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[GHS Cat. Japan, base data]

mist: rat LC50 >3900ppm/8hr (cal.: >5515ppm/4hr, 14.4mg/L/4hr) (ACGIH 8th, 2020)

Irritant properties

Skin corrosion/irritation

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

This substance：slight skin irritant（DFG MAK, 2013）

Serious eye damage/irritation

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit (OECD TG405) : slightly irritating (SIAR, 2007; REACH registration dossier, Accessed Oct. 2021)

Sensitization

Respiratory sensitization

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

No data available.

Skin sensitization

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Germ cell mutagenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Carcinogenicity

[Product]

Category 2, Suspected of causing cancer

[Data for components of the product]
[GHS Cat. Japan, base data]
cat. 2; A3 (ACGIH 8th, 2020) ; NTP TR541, 2008 et al.
[ACGIH]
A3(2020) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity
[Product]
Category 1B, May damage fertility or the unborn child
[Data for components of the product]
[GHS Cat. Japan, base data]
cat. 1B; NTP DB, 2014; SIDS, 2013

Specific target organ toxicity (STOT)
STOT-single exposure
[Product]
Category 3, May cause drowsiness or dizziness
[Data for components of the product]
[cat.3 (narcotic effects)]
[GHS Cat. Japan, base data]
narcotic effect (AICIS IMAP, 2013)

STOT-repeated exposure
[Product]
Category 2, May cause damage to organs through prolonged or repeated exposure
[Data for components of the product]
[cat.2]
[GHS Cat. Japan, base data]
male genitalia (ACGIH 8th, 2020; AICIS IMAP, 2013)

Aspiration hazard
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
No data available.

Section 12. Ecological Information

Toxicity

Aquatic toxicity
[Product]
Based on available data, the classification criteria are not met.
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[GHS Cat. Japan, base data]
Fish (Atheriniformes) LC50 >100mg/L/96hr (MOE Japan, 1998)
Hazardous to the aquatic environment, long-term (chronic)
[GHS Cat. Japan, base data]
Algae (Pseudokirchneriella subcapitata) NOEC >10mg/L/72hr (MOE Japan, 1998)

Water solubility
[Data for components of the product]
1000 g/L (PHYSPROP_DB, 2009)

Persistence and degradability
[Data for components of the product]
Rapidly degradable [OECD TG301A_DOC_Degradation : 99% (SIDS, 2013)]

Bioaccumulative potential
[Data for components of the product]
log Pow=-1.51 (ICSC, 2013)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 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

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

Section 14. Transport Information

UN No., UN CLASS

UN Number or ID Number : Not regulated
UN Proper Shipping Name : Not regulated
Class or division (Transport hazard class) : Not regulated
Packing group : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not regulated
UN Proper Shipping Name : Not regulated
Class or division (Transport hazard class) : Not regulated
Packing group : Not regulated

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not regulated
UN Proper Shipping Name : Not regulated
Class or division (Transport hazard class) : Not regulated
Packing group : Not regulated

Environmental hazards

Marine pollutants (yes/no) : no

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

Noxious Liquid Substances ; Cat. Y
Formamide

MARPOL Annex V - HME (Harmful to the Marine Environment)

Reproductive toxicity: cat.1, 1A, 1B
Formamide

Section 15. Regulatory Information

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

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Toxic for reproduction (Article 57c)

Formamide

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

75-12-7

All components are listed or exempted.

Superfund Amendments and Reauthorizations Act (SARA), Title III

SARA 313 (TRI)

Formamide

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your

responsibility.
Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.
Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

Section 16. Other information

GHS classification and labelling

H290-Corrosive to metals, Category 1: H290 May be corrosive to metals
H351-Carcinogenicity, Category 2: H351 Suspected of causing cancer
H360-Reproductive toxicity, Category 1B H360 May damage fertility or the unborn child
H336-STOT - single exposure, Category 3, Narcotic effects: H336 May cause drowsiness or dizziness.
H373-STOT - Repeated exposure, Category 2: H373 May cause damage to organs through prolonged or repeated exposure

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2020 Edition (Incorporating Amendment 40-20)
IATA Dangerous Goods Regulations (64th Edition) 2023
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2023 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2022 Recommendation on TLVs (JSOH)
Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial Safety and Health Department, Labour Standards Bureau, MHLW in Japan
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.24 (https://www.asahi-ghs.com/)
NITE Chemical Risk Information Platform "NITE-CHRIP" (https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

Abbreviations and acronyms

SDS (Safety Data Sheet)
LD50 (Lethal Dose, 50%)
LC50 (Lethal Concentration, 50%)
IARC (International Agency for Research on Cancer)
ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
JSOH (Japan Society for Occupational Health)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

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 2021).