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Safety Data Sheet

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

Product identifier:
- Product name: Formaldehyde solution
- Product code(SDS NO): 69360jis_J_E1-2

Details of the supplier of the safety data sheet
- Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.
- Address: 1-6, Ohmano-Cho, Koshigaya, 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

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

Physical and chemical hazards
- Flammable liquids: Category 4

HEALTH HAZARDS
- Acute toxicity Oral: Category 4
- Acute toxicity Dermal: Category 3
- Acute toxicity Inhalation: Category 2
- Skin corrosion/irritation: Category 2
- Serious eye damage/eye irritation: Category 2A
- Respiratory sensitization: Category 1
- Skin sensitization: Category 1
- Germ cell mutagenicity: Category 2
- Carcinogenicity: Category 1A
- Reproductive toxicity: Category 1B
- Specific target organ toxicity - single exposure: Category 1(nervous system, respiratory system)
- Specific target organ toxicity - repeated exposure: Category 1(respiratory system, central nervous system)

ENVIRONMENT HAZARDS
- Hazardous to the aquatic environment - acute hazard: Category 2

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements

Signal word: Danger

HAZARD STATEMENT
- Combustible liquid
- Harmful if swallowed
- Toxic in contact with skin
- Fatal if inhaled
- Causes skin irritation
- Causes serious eye irritation
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- May cause an allergic skin reaction

Suspected of causing genetic defects
May cause cancer
May damage fertility or the unborn child
Causes damage to organs after single exposure
Causes damage to organs through prolonged or repeated exposure
Toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not breathe vapors.
In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves or protective clothing.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves and face protection.
Wear eye protection/face protection.
Use personal protective equipment as required.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media for extinction.
Get medical advice/attention if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off immediately all contaminated clothing and wash it before reuse.
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.

Storage

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

Disposal

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

Physical and Chemical hazards

Heating may cause fire.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Common name, synonyms: Formalin

Ingredient name:Formaldehyde
Content(%):35.0 ～ 38.0
Chemical formula:CH2O
Chemicals No, Japan:2-482
CAS No.:50-00-0

MW:30.03
ECNO:200-001-8

Ingredient name:Methanol(Stabilizer)
Content(%):5.0 ～ 10.0
Chemical formula:CH4O
Chemicals No, Japan:2-201
CAS No.:67-56-1
MW:32.04
ECNO:200-659-6

Ingredient name:Water
Content(%):Residual quantity of the ingredient mentioned above
Chemical formula:H2O
CAS No.:7732-18-5
MW:18.02
ECNO:231-791-2

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing.
Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash with plenty of soap and water.
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. Do NOT induce vomiting.
Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Cough. Sore throat. Burning sensation behind the breastbone. Headache. Shortness of breath.
Burns in mouth and throat. Nausea. Abdominal pain. Shock or collapse.

(Symptoms when skin and/or eye contact)

Redness. Pain. Severe burns. Watering of the eyes.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, foam, dry powder, CO2.

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.
Cool container with water spray.

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 peace operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
Ventilate area after material pick up is complete.
Wear proper protective equipment.
PUBLIC SAFTY: Ventilate closed spaces before entering.

Environmental precautions

Runoff to sewer may create fire or explosion hazard.
Vapor explosion hazard indoors, outdoors or in sewers.
Avoid release to the 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.
Use clean non-sparking tools to collect absorbed material.
All equipment used when handling the product must be grounded.

Preventive measures for secondary accident

Collect spillage.
Stop leak if you can do it without risk.
Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe vapors.

(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.
Avoid breathing vapor.

Safety Measures/Incompatibility

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 or face protection.
Wear protective gloves and face protection.
Wear eye protection/face protection.

Use personal protective equipment as required.
When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Store in a well-ventilated place. Keep container tightly closed.
Keep cool. Protect from sunlight.
Store locked up.

8. Exposure controls/personal protection

Control parameters

Control value

(Formaldehyde)
Japan control value (2007) <= 0.1ppm
(Methanol)
Japan control value (1995) <= 200ppm

Adopted value

(Formaldehyde)
JSOH(2007) 0.1ppm, 0.12mg/m3; (ceiling) 0.2ppm, 0.24mg/m3
ACGIH(2016) TWA: 0.1ppm;
STEL: 0.3ppm (URT & eye irr; URT cancer)
Notation…DSEN; RSEN
(Methanol)
JSOH(1963) 200ppm; 260mg/m3 (dermal)
ACGIH(2008) TWA: 200ppm;
STEL: 250ppm (Headache; eye dam; dizziness; nausea)
Notation…Skin

OSHA-PEL

(Methanol)
TWA: 200ppm, 260mg/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. Recommended material(s): butyl rubber
Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear chemical safety goggle.
Wear eye/face protection.

Safety and Health measures

Wash … thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Take off immediately all contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties
Appearance: Liquid
Color: Colorless-clear
Odor: Irritant odor
Phase change temperature
Initial Boiling Point/Boiling point: 98℃(methanol free)
Melting point/Freezing point data N.A.
Decomposition temperature data N.A.
Flash point: (c.c.)83℃(methanol free)
Auto-ignition temperature data N.A.
Explosive properties data N.A.
Vapor pressure: 0.2 kPa (20℃)(methanol free)
Relative Vapor Density (Air=1): 1.03(methanol free)
Relative density of the Vapor/air-mixture at 20℃ (Air = 1): 1.00(methanol free)
Specific gravity/Density: 1.085～1.100g/ml(20℃)
Solubility
Solubility in water: Miscible
Solubility in solvent: Miscible in ethanol.
n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Reactivity
Runaway polymerization may occur without stabilizer/inhibitor or when heated.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
Reacts with acids, alkali metals and strong oxidants.
Conditions to avoid
Contact with incompatible materials.
Open flames. Heat.
Incompatible materials
Acids, Strong oxidizing agents, Alkali metals.
Hazardous decomposition products
Carbon oxides

11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[GHS Cat. Japan, base data]
(Formaldehyde) rat LD50=600 mg/kg (SIDS, 2002)
(Methanol) human LD50=ca. 1400 mg/kg (DFGOT vol.16, 2001)
Acute toxicity (Dermal)
[GHS Cat. Japan, base data]
(Formaldehyde) rabbit LD50=270 mg/kg (EHC 89 1989)
(Methanol) Not classified : rabbit LD50=15800mg/kg (DFGOTvol.16, 2001)
Acute toxicity (Inhalation)
[GHS Cat. Japan, base data]
(Formaldehyde) gas : rat LC50=480 ppm (SIDS, 2002)
(Methanol) Not classified : vapor : rat LC50>31500 ppm/4hr (DFGOTvol.16, 2001)
Labor standard law, Japan; Toxic
Formaldehyde; Methanol

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Formaldehyde) rabbit/human : mild～moderate (EHC 89, 1989)

Serious eye damage /irritation

[GHS Cat. Japan, base data]

(Formaldehyde) not mild irritating (EHC 89, 1989)

(Methanol) rabbit　category 2 : Draize test (EHC 196, 1997)

Sensitization

Respiratory sensitization

[GHS Cat. Japan, base data]

(Formaldehyde)　cat.1; CICAD 40, 2002

Skin sensitization

[GHS Cat. Japan, base data]

(Formaldehyde) cat.1; CERI・NITE hazard assessment No.71, 2005

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Formaldehyde)　cat.2; CERI・NITE hazard assessment No.71, 2005

Carcinogenicity

[GHS Cat. Japan, base data]

(Formaldehyde)

cat.1A; IARC (2001)　Gr.1

IARC-Gr.1 : Carcinogenic to humans

ACGIH-A1(2016) : Confirmed Human Carcinogen

EPA-Group B1; Probable Human Carcinogen(1986)

NTP-Reasonably Anticipated To Be Human Carcinogen

JSOH-2A: Sufficient Evidence of Carcinogenicity for Humans

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity

[GHS Cat. Japan, base data]

(Methanol) cat.1B; mouse : PATTY 5th, 2001

No Teratogenic effects data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT-single exposure

[cat.1]

[Japan published data]

(Formaldehyde)

nerve/nervous system; respiratory apparatus/system (CERI・NITE hazard assessment No.71, 2005)

(Methanol) CNS; vision/organ of vision; systemic toxicity (DFGOT vol.16, 2001)

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

[Japan published data]

(Methanol)　Narcosis (PATTY 5th, 2001)

STOT-repeated exposure

[cat.1]

[Japan published data]

(Formaldehyde)　respiratory apparatus/system; CNS (CERI hazard data book 96-7, 1997)

(Methanol)　CNS; vision/organ of vision (ACGIH 7th, 2001)

No Aspiration hazard data available

Additional data

There are no data available on the preparation itself.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Toxic to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Formaldehyde) Fish(striped bass) LC50=1.8 mg/L/96hr (CICAD40, 2002)

(Methanol) Crustacea(Brine shrimp) LC50=900.73 mg/L/24hr (EHC196, 1998)

Water solubility

(Formaldehyde) very good (ICSC, 2012)

(Methanol) 100 g/100 ml (PHYSPROP Database, 2009)

Persistence and degradability

(Formaldehyde) BOD_Degradation : 91% (Registered chemicals data check & review, Japan)

Bioaccumulative potential

(Formaldehyde) log Pow=0.35 (PHYSPROP Database, 2005)

(Methanol) log Pow=-0.82～ -0.66 (ICSC, 2000)

Additional information

There are no data available on the preparation itself.

13. Disposal considerations

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, UN CLASS

UN number: 2209

UN proper shipping name: FORMALDEHYDE SOLUTION with not less than 25% formaldehyde

Transport hazard class(es): 8

Packing group: III

ERG GUIDE NO.: 132

15. Regulatory Information

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

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

Formaldehyde; Methanol

Non Noxious Liquid ; Cat. OS

Water

US major regulations

TSCA

Formaldehyde; Methanol; Water

Other regulatory information

We are not able to check up the regulatory information in 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.

16. Other information

GHS classification and labelling

Flam. Liq. 4: H227 Combustible liquid
Acute Tox. 4: H302 Harmful if swallowed
Acute Tox. 3: H311 Toxic in contact with skin
Acute Tox. 2: H330 Fatal if inhaled
Skin Irrit. 2: H315 Causes skin irritation
Eye Irrit. 2A: H319 Causes serious eye irritation
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens. 1: H317 May cause an allergic skin reaction
Muta. 2: H341 Suspected of causing genetic defects
Carc. 1A: H350 May cause cancer
Repr. 1B: H360 May damage fertility or the unborn child
STOT SE 1: H370 Causes damage to organs after single exposure
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 2: H401 Toxic to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2018 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier's data/information
NITE Chemical Risk Information Platform(NITE-CHRIP)http://www.safe.nite.go.jp/japan/db.html
GHS Classification Guidance for Enterprises 2013 Revised Edition (Aug. 2013, METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.
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 2016).