Date of issue for the 1st edition : 27/Jun/2017
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Safety Data Sheet

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

Product identifier:
Product name: Acetonitrile
Reference number(SDS):11255jis_E3-2
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

2. Hazards identification

GHS classification and label elements of the product
Classification of the substance or mixture
PHYSICAL AND CHEMICAL HAZARDS
Flammable liquids: Category 2
HEALTH HAZARDS
Acute toxicity (Dermal): Category 3
Acute toxicity (Inhalation): Category 4
Serious eye damage/eye irritation: Category 2
Specific target organ toxicity - single exposure: Category 1(central nervous system, respiratory organs)
Specific target organ toxicity - repeated exposure: Category 2(haemal system, central nervous system, respiratory organs, liver, kidney)
(Note) GHS classification without description: Not classified/Classification not possible
Label elements

Signal word: Danger
HAZARD STATEMENT
H225-Highly flammable liquid and vapor
H311-Toxic in contact with skin
H332-Harmful if inhaled
H319-Causes serious eye irritation
H370-Causes damage to organs
H373-May cause damage to organs through prolonged or repeated exposure
PRECAUTIONARY STATEMENT
Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water to extinguish.
Get medical advice/attention if you feel unwell.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER/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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.

Storage

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

Disposal

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

Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Acetonitrile
Content (%):98.0<
Chemical formula:C2H3N
Chemicals No, Japan:2-1508
CAS No.:75-05-8
MW:41.05
ECNO:200-835-2

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 advice/attention if you feel unwell.
Keep victim warm and quiet.
Call emergency medical service.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Give artificial respiration if victim is not breathing.
Administer oxygen if breathing is difficult.
Call a POISON CENTER/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 or shower.
Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.
Remove and isolate contaminated clothing and shoes.
In case of burns, immediately cool affected skin for as long as possible with chilled water.
Do not remove clothing if adhering to skin.

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.
If victim is conscious, give 1 – 2 glasses of water.
Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Sore throat. Weakness. Chest tightness. Shortness of breath. Dizziness. Nausea. Vomiting. Convulsions.
※Symptoms may be delayed.

(Symptoms when skin and/or eye contact)

Redness of the eyes. Pain of the eyes.
※Easily absorbed into the skin.

Indication of any immediate medical attention and special treatment needed

Oxygen should be administered.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Water may be effective for cooling, but may not effect extinguishment.

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 resistant or flame 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 until material pick up is complete.
Wear proper protective equipment.
PUBLIC SAFTY: Ventilate closed spaces before entering.
Do not touch or walk through spilled material.

Environmental precautions

Vapors may form explosive mixtures with air.
Vapor explosion hazard indoors, outdoors or in sewers.
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.
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.
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
Prevent entry into waterways, sewers, basements or confined areas.
A vapor suppressing foam may be used to reduce vapors.
Keep out of low areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe vapors/fume.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.

(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/eye protection/face protection.
Use personal protective equipment as required.
When using do not eat, drink or smoke.

Any incompatibilities

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

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.
Do not eat, drink or smoke when using this product.
Take off immediately all contaminated clothing and wash it before reuse.

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.

Container and packaging materials for safe handling data is not available.

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.

8. Exposure controls/personal protection
Control parameters
Control value in MHLW is not available.
Adopted value
Adopted value in JSOH is not available.
ACGIH(2002) TWA: 20ppm (LRT irr)
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.
Wear positive pressure self-contained breathing apparatus (SCBA).
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 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.

9. Physical and Chemical Properties
Information on basic physical and chemical properties
Physical state: Liquid
Color: Colorless
Odor: Characteristic odor
Odor threshold: 70.0mg/m3
Melting point/Freezing point: -46℃
Boiling point or initial boiling point: 82℃
Boiling range data is not available.
Flammability (gases, liquids and solids): Ignitable
Lower and upper explosion limit/flammability limit:
Lower explosion limit: 3.0vol %
Upper explosion limit: 17vol %
Flash point: (c.c.)2℃
Auto-ignition temperature: 524℃
Decomposition temperature data is not available.
Self-Accelerating Decomposition Temperature/SADT data is not available.
pH data is not available.
Dynamic viscosity: 0.35mPas(20℃)
Kinematic viscosity: 0.45mm2/s(20℃)
Solubility:
Solubility in water: 1000g/liter(25℃)
Solubility in solvent: Very soluble in ethanol and diethyl ether.
n-Octanol/water partition coefficient: log Pow-0.3
Vapor pressure: 9.9 kPa （25℃）
VOC data is not available.

Evaporation rate data is not available.
Density and/or relative density: 0.78g/cm3(20℃)
Relative vapor density (Air=1): 1.4
Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.04
Critical temperature: 272.3℃
Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.
Highly flammable.

Possibility of hazardous reactions

The vapour mixes well with air, explosive mixtures are easily formed.
Decomposes on heating or on burning and on contact with hot surfaces. This produces toxic fumes.
Reacts violently with strong oxidants. This generates fire and explosion hazard.
Reacts with acids and bases. This produces toxic and flammable hydrogen cyanide.
Attacks some forms of plastic(e.g. Polyvinyl chloride), rubber(e.g. Natural rubber) and coatings.

Conditions to avoid

Contact with incompatible materials.
Open flames. Heat. Sparks.

Incompatible materials

Acids, Bases, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides, Hydrogen cyanide.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]
rat LD50=2460～3445mg/kg(male), 2230～6702mg/kg(female) (EHC 154, 1993)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]
rabbit LD50=395mg/kg (male) (75% aq. Soln.), 978.8mg/kg (male) (EHC 154, 1993)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]
vapor：rat LC50=16000ppm/4h (EHC 154, 1993; NITE Initial Risk Assessment Report, 2007; PATTY 6th, 2012)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
rabbit : not irritating or slight irritation (NITE primary risk assessment, 2007; EU-RAR No.18, 2002),

Serious eye damage/irritation

[GHS Cat. Japan, base data]
rabbit : moderate or severe irritation (NITE primary risk assessment, 2007; EU-RAR No.18, 2002), EU CLP eyes Irrit. 2 (ECHA CL Inventory, Access on Jun. 2017)

Allergenic and sensitizing effects data is not available.
Mutagenic effects data is not available.

Carcinogenicity

[ACGIH]

A4(2002) : Not Classifiable as a Human Carcinogen

[EPA]

CBD; Carcinogenic potential cannot be determined(1996)

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

central nervous system; respiratory system (NITE primary risk assessment, 2007; EU-RAR, 2002; EHC 154, 1993;)

STOT-repeated exposure

[cat.2]

[GHS Cat. Japan, base data]

blood system; central nervous system; respiratory system; liver; kidney (NITE primary risk assessment, 2007; MOE risk assessment vol. 3, 2004; NTP TR447, 1996; EU-RAR, 2002)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

Algae (Pseudokirchneriella subcapitata) EC50 (speed method) >700mg/L/72hr (Results of Aquatic Toxicity Tests of Chemicals conducted by MOE in Japant, 2017),

Fish (Oryzias) LC50 >100mg/L/96hr (Results of Aquatic Toxicity Tests of Chemicals conducted by MOE in Japant, 2017),

Crustacea (Daphnia magna) LC50 >100mg/L/96hr (MOE risk assessment vol. 3, 2004)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

Crustacea (Daphnia magna) NOEC(Reproductive inhibition)=960mg/L/21days (MOE risk assessment vol. 3, 2004);

Algae (Pseudokirchneriella subcapitata) NOEC(Speed method)=700mg/L/72hr (Results of Aquatic Toxicity Tests of Chemicals conducted by MOE in Japant, 2017)

Water solubility

1000 g/L (25℃) (PHYSPROP Database)

Persistence and degradability

Degrade rapidly [BOD Degradation (Avg.):65% (J-CHECK, 1998)]

Bioaccumulative potential

log Pow=-0.34 (PHYSPROP DB, 2017)

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

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

14. Transport Information

UN No., UN CLASS

UN No. or ID No.: 1648
UN Proper Shipping Name : ACETONITRILE
Class or division (Transport hazard class) : 3
Packing group : II
ERG GUIDE No.: 127

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1648
Proper Shipping Name : ACETONITRILE
Class or division : 3
Packing group : II

IATA Dangerous Goods Regulations

UN No.: 1648
Proper Shipping Name : ACETONITRILE
Class or division : 3
Hazard labels : Flamm.liquid
Packing group : II

Environmental hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Z
Acetonitrile(Z-5)

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Acetonitrile

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.

16. Other information

GHS classification and labelling

H225-Flam. Liq. 2: H225 Highly flammable liquid and vapor
H311-Acute Tox. 3: H311 Toxic in contact with skin
H332-Acute Tox. 4: H332 Harmful if inhaled
H319-Eye Irrit. 2: H319 Causes serious eye irritation
H370-STOT SE 1: H370 Causes damage to organs
H373-STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2021 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2021 Recommendation on TLVs (JSOH)
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.15
(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)

Definitions and Abbreviations

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 2020).