Date of issue: 2018/10/05
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Safety Data Sheet

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

Product identifier:
- Product name: Acetylacetone
- SDS No. : 0045E-2

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

PHYSICAL AND CHEMICAL HAZARDS
- Flammable liquids: Category 3

HEALTH HAZARDS
- Acute toxicity (Oral): Category 4
- Acute toxicity (Dermal): Category 3
- Acute toxicity (Inhalation): Category 3
- Serious eye damage/eye irritation: Category 2B
- Germ cell mutagenicity: Category 2
- Specific target organ toxicity - single exposure: Category 1(central nervous system)
- Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)

ENVIRONMENT HAZARDS
- Hazardous to the aquatic environment (Acute): Category 3
- Hazardous to the aquatic environment (Long-term): Category 3

Label elements

Signal word: Danger

HAZARD STATEMENT
- Flammable liquid and vapor
- Harmful if swallowed
- Toxic in contact with skin
- Toxic if inhaled
- Causes eye irritation
- Suspected of causing genetic defects
- Causes damage to organs(central nervous system)
- May cause respiratory irritation
- Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention
- Avoid release to the environment.
- 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.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor/physician.
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.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth.

Storage

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

Disposal

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

Specific Physical and Chemical hazards

Flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Acetylacetone
Content (%):99(min)
Chemical formula:CH3COCH2COCH3
Chemicals No, Japan:2-562
CAS No.:123-54-6
MW:100.12
ECNO:204-634-0

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

4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor/physician.

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.

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.

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

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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment - except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher - except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

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 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.

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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.

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

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, 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.

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.

Take off immediately all contaminated clothing and wash it before reuse.

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

(Acetylacetone)

ACGIH(2011) TWA: 25ppm (Neurotoxicity; CNS impair)

Notation

(Acetylacetone)

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.

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: Liquid

Color: Colorless to pale yellow

Odor: Characteristic odor

Melting point/Freezing point: −23℃

Boiling point or initial boiling point: (Acetylacetone)140℃

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: 2.4 vol %

Upper explosion limit: 11.6 vol %

Flash point: (Acetylacetone)(C.C.) 34℃

Auto-ignition temperature: (Acetylacetone)340℃

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 16 g/100 ml

n-Octanol/water partition coefficient data is not available.

Vapor pressure: 0.93 kPa (20℃)

Density and/or relative density: 0.98

Relative vapor density (Air=1): 3.45

Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.02

Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

The substance may polymerize under the influence of light. (ICSC 0533)

Gradually turns yellow.

Possibility of hazardous reactions

The vapour is heavier than air.

Reacts with strong oxidants, bases and reducing agents. (ICSC 0533)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Bases, Strong oxidizing agents, Reducing agents

Hazardous decomposition products

Carbon oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Acetylacetone)

female rat LD50=578mg/kg (PATTY 6th, 2012)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Acetylacetone)

female rabbit LD50=790mg/kg (ACGIH 7th, 2011)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Acetylacetone)

vapor: rat LC50=1224ppm/4hr (PATTY 6th, 2012)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Acetylacetone)

rabbit mild to moderate irritation (SIDS, 2003)

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Acetylacetone)

cat. 2; NTP DB, 2015

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Acetylacetone)

central nervous system (ACGIH 7th, 2011)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Acetylacetone)

respiratory tract irritation (PATTY 6th, 2012)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Acetylacetone)

Crustacea (Daphnia magna) EC50=34.4mg/L/48hr (SIDS, 2003)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(Acetylacetone)

Crustacea (Daphnia magna) NOEC (reproduction rate)=0.25mg/L/14days (SIDS, 2003)

Water solubility

(Acetylacetone)

16 g/100 ml (ICSC, 1997)

Persistence and degradability

(Acetylacetone)

Degrade rapidly (BOD_Degradation : 83%/28 days; TOC_Degradation : 95%/28 days; GC_Degradation: 100%/28 days (MITI official bulletin, 1991))

Bioaccumulative potential

(Acetylacetone)

log Kow=0.4 (PHYSPROP DB, 2009)

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.

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

14. Transport Information

UN No. or ID No.: 2310

UN Proper Shipping Name :

PENTANE-2,4-DIONE

Class or division (Transport hazard class) : 3

Subsidiary hazard(s) : 6.1

Packing group : III

ERG GUIDE No.: 131

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2310

Proper Shipping Name :

PENTANE-2,4-DIONE

Class or division : 3

Subsidiary hazard(s) : 6.1

Packing group : III

IATA Dangerous Goods Regulations

UN No.: 2310

Proper Shipping Name :

PENTANE-2,4-DIONE

Class or division : 3

Subsidiary hazard(s) : 6.1

Hazard labels : Flamm.liquid & Toxic

Packing group : III

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Acetylacetone

Other regulatory information

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

16. Other information

GHS classification and labelling

Flam. Liq. 3: H226 Flammable liquid and vapor
Acute Tox. 4: H302 Harmful if swallowed
Acute Tox. 3: H311 Toxic in contact with skin
Acute Tox. 3: H331 Toxic if inhaled
Eye Irrit. 2B: H320 Causes eye irritation
Muta. 2: H341 Suspected of causing genetic defects
STOT SE 1: H370 Causes damage to organs
STOT SE 3: H335 May cause respiratory irritation
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

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)
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).