

Safety Data Sheet

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

Product identifier:

Product name: Ammonium Persulfate

Reference number(SDS): 67506jis_E-1

Relevant identified uses of the substance or mixture and uses advised against

Uses advised against: This product conform to JSFA (Japan's Specifications and Standards for Food Additives).

Do not use for other purposes.

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

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Oxidizing solids: Category 3

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2B

Respiratory sensitization: Category 1

Skin sensitization: Category 1

Specific target organ toxicity – single exposure: Category 2 (central nervous system)

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – repeated exposure: Category 2 (respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

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

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

Label elements



Signal word: Danger

HAZARD STATEMENT

H272–May intensify fire; oxidizer

H302–Harmful if swallowed

H315–Causes skin irritation

H320–Causes eye irritation

H334–May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317–May cause an allergic skin reaction

H371–May cause damage to organs after single exposure

H335–May cause respiratory irritation

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

H402–Harmful to aquatic life

H412–Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

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

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.

Contaminated work clothing should not be allowed out of the workplace.

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 for extinction.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: 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 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.

Store locked up.

Disposal

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

Specific Physical and Chemical hazards

Oxidizing material. Organic or combustible material may catch fire in contact with it.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Common name, synonyms: Ammonium peroxodisulfate

Ingredient name: Ammonium persulfate

Content (%): 95.0 <

Chemical formula: H₈N₂O₈S₂

Chemicals No, Japan: 1-406

CAS No.: 7727-54-0

MW: 228.20

PRTR law No, Japan: 1-395

ECNO: 231-786-5

4. First-aid measures

Descriptions of first-aid measures

General measures

- Get medical attention/advice if you feel unwell.
- IF exposed or concerned: Call a POISON CENTER or doctor/physician.
- 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.
- 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. Rinse skin with water/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.

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.
- If victim is conscious, give 1 – 2 glasses of water.
- 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)

Nausea. Diarrhoea. Cough, Dyspnea. Sore throat. Wheezing. Vomiting.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes. Burning sensation of the skin. Pain.

Indication of any immediate medical attention and special treatment needed

The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

- Use appropriate extinguishing media suitable for surrounding facilities.
- Not combustible but enhances combustion of other substances.

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.
- 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 piece 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 SAFETY: Ventilate closed spaces before entering.

Environmental precautions

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

Runoff may create fire or explosion hazard.

Methods and materials for containment and cleaning up

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

✕Do NOT absorb in saw-dust or other combustible absorbents.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Keep out of low areas.

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/sparks/open flames/hot surfaces. – No smoking.

Keep/Store away from clothing/combustible materials.

(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.

May ignite combustibles (wood, paper, oil, clothing, etc.).

Contaminated clothing may be a fire risk when dry.

Any incompatibilities

Strong bases, Reducing agents, Powdered metals, Combustible substances 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.

Contaminated work clothing should not be allowed out of the workplace.

Take off 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 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(1993) TWA: 0.1mg/m³ (Skin irr)

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.

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: Crystals or crystalline powder

Color: Colorless(crystals) or white(crystalline powder)

Odor: None

Odor threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature: 120°C

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: 3.2 (100g/L, 20°C)

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 58.2 g/100 ml (20°C)

Solubility in solvent: Practically insoluble in ethanol and diethyl ether.

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

Vapor pressure data is not available.

Vapor density data is not available.

VOC data is not available.

Evaporation rate data is not available.

Density and/or relative density: 1.98g/cm³(20°C)

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Critical temperature data is not available.

No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

The substance is a strong oxidant. It reacts with combustible and reducing materials.

Decomposes on heating. This produces toxic and corrosive fumes.

If in solution, reacts violently with iron, powdered aluminium and silver salts.

The solution in water is a medium strong acid.

Conditions to avoid

Contact with incompatible materials.

Heat.

Incompatible materials

Strong bases, Reducing agents, Powdered metals, Combustible substances

Hazardous decomposition products

Sulfur oxides, Nitrogen oxides, Ammonia gas

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

female rat LD₅₀=495mg/kg (SIDS, 2005)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

rat LD₅₀ > 2000 mg/kg (SIDS, 2005 et al.)

Labor standard law, Japan; Toxic

Ammonium peroxodisulfate

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

human : aqueous solution (>5%) can cause skin irritation (SIDS, 2005)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

rabbit Draize test: slight to mild irritation (SIDS, 2005)

Sensitization

Respiratory sensitization

[GHS Cat. Japan, base data]

cat. 1; SIDS, 2005

Skin sensitization

[GHS Cat. Japan, base data]

cat. 1; SIDS, 2005

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.2]

[GHS Cat. Japan, base data]

CNS (SIDS, 2005)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

respiratory tract irritation (SIDS, 2005)

STOT-repeated exposure

[cat.2]

[GHS Cat. Japan, base data]

respiratory system/system (SIDS, 2005)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

H402-Harmful to aquatic life

H412-Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

Fish (rainbow trout) LC50=76.3mg/L/96hr (OECD SIDS, 2005)

Water solubility

58.2 g/100 ml (20°C) (ICSC, 2001)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

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 (- 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 No. or ID No.: 1444

UN Proper Shipping Name : AMMONIUM PERSULPHATE

Class or division (Transport hazard class) : 5.1

Packing group : III

ERG GUIDE No.: 140

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1444

Proper Shipping Name : AMMONIUM PERSULPHATE

Class or division : 5.1

Packing group : III

IATA Dangerous Goods Regulations

UN No.: 1444

Proper Shipping Name : AMMONIUM PERSULPHATE

Class or division : 5.1

Hazard labels : Oxidizer

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

Ammonium persulfate

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**

H272–Ox. Sol. 3: H272 May intensify fire; oxidizer

H302–Acute Tox. 4: H302 Harmful if swallowed

H315–Skin Irrit. 2: H315 Causes skin irritation

H320–Eye Irrit. 2B: H320 Causes eye irritation

H334–Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317–Skin Sens. 1: H317 May cause an allergic skin reaction

H371–STOT SE 2: H371 May cause damage to organs after single exposure

H335–STOT SE 3: H335 May cause respiratory irritation

H373–STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

H402–Aquatic Acute 3: H402 Harmful to aquatic life

H412–Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (61th Edition) 2020
Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2020 TLVs and BEIs. (ACGIH)
<http://monographs.iarc.fr/ENG/Classification/index.php>
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2019 Recommendation on TLVs (JSOH)
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.10 (<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 2019).