

According to the UN GHS revision 8

Creation Date: August 12, 2024

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1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Aspirin
Catalog Number: T0005
CAS Number: 50-78-2

1.2 Other means of identification

Other names: -

1.3 Recommended use of the chemical and restrictions on use

Identified uses:

1.4 Supplier's details

Company: Targetmol Chemicals Inc.
Uses advised against: 36 Washington Street, Wellesley Hills, Massachusetts 02481 USA
Tel/Fax: (781) 999-4286

1.5 Emergency phone number

Emergency phone number: 781-999-4286
Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral

2.2 GHS label elements, including precautionary statements

Pictogram(s):



Signal word: Warning

Hazard statement(s): H302 Harmful if swallowed

Precautionary statement(s):

Prevention: P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response: P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.

Storage: none

Disposal: P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Aspirin	-	50-78-2	200-064-1

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

The use of paralytic agents and difficulty in achieving the very high minute volumes needed tend to induce respiratory acidosis in the patient. Aspirin ($pK_a = 3.5$) becomes non-ionized at an acidic pH and crosses the blood-brain barrier more readily, increasing its toxic central effects. It is the tissue rather than plasma levels that are dangerous to the patient. Noncardiogenic pulmonary edema interferes with oxygenation of the patient and high concentrations of inspired oxygen may be required.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Exposure Routes: inhalation, ingestion, skin and/or eye contact Symptoms: Irritation eyes, skin, upper respiratory system; increased blood clotting time; nausea, vomiting; liver, kidney injury Target Organs: (NIOSH, 2016)

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

5.2 Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Personal protection: particulate filter respirator adapted to the airborne concentration of the substance.

6.3 Methods and materials for containment and cleaning up

A DRUG SCREENING EXPERT

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Well closed. Chewable aspirin tablets containing 81 mg of the drug should be stored in child-resistant containers holding not more than 36 tablets each in order to limit the potential toxicity associated with accidental ingestion in children. Aspirin suppositories should be stored at 2-15 deg C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

TLV: 5 mg/m³, as TWA

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation (not if powder).

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid. Crystalline.
Color	White.
Odour	Odorless, but in moist air it is gradually hydrolyzed and acquires odor of acetic acid
Melting point/ freezing point	136 °C. Atm. press.:1 atm.
Boilingpoint or initial boiling point and boiling range	120°C
Flammability	Combustible Powder; explosion hazard if dispersed in air.
Lower and upper explosion limit/flammability limit	no data available
Flash point	250 °C. Atm. press.:1 atm.
Auto-ignition temperature	Remarks:The substance melts before reaching its minimal inflammation temperature as layer.
Decomposition temperature	140°C

pH	no data available
Kinematic viscosity	no data available
Solubility	H2O: 1.80 mg/mL (10 mM), Sonication and heating are recommended. DMSO: 50 mg/mL (277.53 mM),
N-octanol-water partition coefficient	log Pow = 1.19. Temperature: 20 °C.
Vapour pressure	0 mm Hg. Temperature: 25 °C. Remarks: Equals 0.0034 Pa.
Density and/ or relative density	1 350 kg/m ³ . Temperature: 20 °C.; 700 kg/m ³ . Temperature: 20 °C.
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

The solution in water is a weak acid.

10.2 Chemical stability

Stable in dry air; in moist air it is gradually hydrolyzed into salicylic and acetic acids

10.3 Possibility of hazardous reactions

SLIGHT WHEN EXPOSED TO HEAT OR FLAME Dust explosion possible if in powder or granular form, mixed with air. The active ingredient in common aspirin. Incompatible with oxidizers and strong acids. Also incompatible with strong bases. May react with water or nucleophiles (e.g. amines and hydroxy groups). May also react with acetanilide, amidopyrine, phenazone, hexamine, iron salts, phenobarbitone sodium, quinine salts, potassium and sodium iodides, alkali hydroxides, carbonates, stearates and paracetamol. (NTP, 1992)

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Solutions of alkali hydroxides or carbonates, strong oxidizers, moisture [Note: Slowly hydrolyzes in moist air to salicylic & acetic acids].

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 - rat (male) - ca. 1 850 mg/kg bw.

Inhalation: no data available

Dermal: LD50 - rabbit - > 7 940.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. Ingestion of large amounts could cause effects on the blood and central nervous system.

STOT-repeated exposure

Animal tests show that this substance possibly causes toxic effects upon human reproduction.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50 - *Leuciscus idus* - > 1 000 mg/L - 48 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 1 293 mg/L - 48 h. Remarks: Acetylsalicylic acid.

Toxicity to algae: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - 106.7 mg/L - 72 h.

Toxicity to microorganisms: EC50 - *Bacillus subtilis* - 360 mg/L - 1 h.

12.2 Persistence and degradability

AEROBIC: No biodegradation studies were located for acetylsalicylic acid in soil or natural water(SRC, 2008); however, acetylsalicylic acid was classified as readily biodegradable in screening tests using sewage sludge inoculum(1,2). Conversely, only a 0.09% total biodegradation was predicted in a study of a UK sewage treatment plant; the compound is detected in the UK environment(3).

12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for acetylsalicylic acid (SRC), using a log Kow of 1.19(1) and a regression-derived equation (2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

The Koc of acetylsalicylic acid is estimated as 100(SRC), using a log Kow of 1.19(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that acetylsalicylic acid is expected to have high mobility in soil(SRC). The pKa of acetylsalicylic acid is estimated as 3.49(4), indicating that this compound will primarily exist as an anion in the environment and anions generally do not adsorb as strongly to soils containing organic carbon and clay than their neutral counterparts(5).

12.5 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. TRANSPORT INFORMATION

14.1 UN Number

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

16. OTHER INFORMATION

Information on revision

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

no data available

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