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1. Chemical Product

**Product Name:** Aspirin

**Chemical name:** 2-acetyloxybenzoic acid

**Synonyms:** Salicylic acid acetate; acetylsalicylic acid; ASA; O-Acetylsalicylic acid.

**Chemical Formula:** C₉H₈O₄

2. Composition and Information on Ingredients

**Composition:** Acetylsalicylic acid

**Toxicological Data on Ingredients:**

**ORAL LD₅₀:** Acute: 200 mg kg⁻¹ [Rat]

3. Hazards Identification

**Potential Acute Health Effects:** Causes irritation in the eyes, respiratory tract and skin. May even result in severe pain and damage of the eyes. Exposure may even cause allergies.

**Potential Chronic Health Effects:** Chronic ingestion may cause tinnitus, abnormal bleeding (gastric or retinal), gastric ulcer, weight loss, mental deterioration, and skin eruptions. May cause kidney and liver damage in susceptible individuals.

**Carcinogenic Effects:** Not applicable

**Mutagenic Effects:** Paternal effects (testes, epididymis, sperm duct) and Maternal effects (menstrual cycle changes or disorders and parturition).

**Teratogenic Effects:** Effects on embryo or fetus such as fetal death and extra embryonic structures (placenta, umbilical cord, etc.)

**Developmental Toxicity:** Abnormalities of the blood and lymphatic system, body wall, cardiovascular system, central nervous system, craniofacial, eye, ear, musculoskeletal system, and respiratory system.
4. First Aid Measures

General measures:

**Skin contact:** Immediately remove contaminated clothing and shoes, and flush skin with soap and water for at least 15 minutes. Cover the irritated skin with an emollient and if irritation persists get medical attention. Wash clothing and shoes before reuse.

**Serious skin contact:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Eye contact:** Remove any contact lenses immediately and flush eyes, lifting lower and upper eyelids occasionally, with plenty of WARM water for at least 15 minutes. Seek immediate medical attention.

**Ingestion:** Get medical attention immediately. Loosen tight clothing such as a collar, tie, belt or waistband and only induce vomiting if directed by medical personnel.

**Serious ingestion:** Get medical attention immediately since large doses may cause mild burning pain in the mouth.

**Inhalation:** Remove to fresh air and if not breathing, give artificial respiration or oxygen if breathing is difficult.

**Serious inhalation:** Loosen tight clothing such as a collar, tie, belt or waistband and evacuate the victim to a safe area as soon as possible. If breathing is difficult, administer oxygen and if the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

5. Fire and Explosion Data

**Flammability of the Product:** May be combustible at high temperature or with an ignition source.

**Auto-Ignition Temperature:** Not applicable

**Flash points:** Not applicable
Flammable limits: Not applicable

Products of Combustion: Carbon oxides (CO, CO₂)

Fire Hazards in Presence of Various Substances: Not applicable

Explosion Hazards in Presence of Various Substances: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Fire fighting media and Instructions: Wear full protective clothing and self contained breathing apparatus.

Special Remarks on Fire Hazards: Do not use a water jet. For a small fire use dry chemical powder. For large fire use water spray, fog or foam.

Special Remarks on Explosion Hazards: Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosive dust concentration: 40 g/m³.

6. **Accidental Release Measures**

**NB:** Wear appropriate protective equipment/clothing including gloves before removing any spills.

**Small spill:** Vacuum or sweep up the spilled solid in a convenient waste disposal container while avoiding generating dusty conditions. Ventilate contaminated area and flush thoroughly with water after removal.

**Large spill:** Stop leak if without risk while preventing entry into sewers, basements, or confined areas. It is a poisonous solid and assistance on disposal should be called for if needed. Use water spray to reduce vapours and eliminate all ignition sources.
7. Handling and Storage

**Precautions:** Ground all equipment containing material.

**Storage:** Keep container tightly closed, dry and away from heat and sources of ignition.

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8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**
- ACGIH: 5 mg/m³ TWA
- NIOSH: 5 mg/m³ TWA

**Engineering Controls:** If laboratory operations generate dust, fume or mist, use local exhaust ventilation or process exposures to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Wear appropriate protective eyeglasses or chemical safety goggles, dust respirator, protective gloves and protective clothing to avoid skin exposure.

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9. Physical and Chemical Properties

**Physical state and appearance:** Solid; White/transparent crystalline needles

**Odour:** Not applicable

**Taste:** Not applicable

**Molecular Weight:** 180.15g

**pH (1% solution/water):** 3.5 at 2.5 g/l at 20°C

**Boiling Point:** 140°C (284°F)

**Melting Point:** 139°C (275°F)

**Critical Temperature:**

**Specific Gravity (Water = 1):** 1.40

**Vapour Pressure (mmHg):** Not applicable

**Vapour Density:** Not applicable

**Volatility:** 0

**Odour Threshold:** Not applicable

**Water/Oil Distribution Coefficient:** log Po/w: 1.19

**Ionicity (in Water):** Not applicable

**Dispersion Properties:** Not applicable
Solubility: >2.7 mg/ml at 25.0°C (Very slightly soluble in cold water)

10. Stability and Reactivity Data

Stability: Stable

Corrosivity: Not applicable

Instability temperature: Not applicable

Conditions of Instability: Heat, exposure to light and moisture.

Incompatibles: Hot water, strong acids, strong bases and strong oxidising agents, and antipyrine, aminopyrine, methamine, phenol, phenyl salicylate and sodium bicarbonate.

Polymerization: None

11. Toxicological Information

Toxicity to animals:

Oral LD50 (rat): 1700 mg/kg
Oral LD50 (rat): 1500 mg/kg
Oral LD50 (rabbit): 1010 mg/kg
Oral LD50 (dog): 700 mg/kg
Intravenous LD50 (dog): 681 mg/kg
Oral LD50 (guinea pig): 1075 mg/kg
Oral LD50 (hamster): 3500 mg/kg
Oral LD50 (mammal): 1750 mg/kg
Effects on humans:

**Acute potential health effects:** Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of skin contact (corrosive, permeator), of ingestion, of inhalation. Severe over-exposure can result in death.

**Chronic potential health effects:** The substance is toxic to blood, lungs, mucous membranes.

**Mutagenic Effects:** Paternal effects (testes, epididymis, sperm duct) and Maternal effects (menstrual cycle changes or disorders and parturition).

**Teratogenic Effects:** Effects on embryo or fetus such as fetal death and extra embryonic structures (placenta, umbilical cord, etc.)

**Developmental Toxicity:** Abnormalities of the blood and lymphatic system, body wall, cardiovascular system, central nervous system, craniofacial, eye, ear, musculoskeletal system, and respiratory system.

**Other information:** Not applicable

### 12. Ecological Information

**Ecotoxicity:** Runoff from fire control or dilution water may cause pollution.

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - > 1.000 mg/l - 48 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia - > 100 mg/l - 48 h

Toxicity to bacteria LC50 - Bacteria - > 10.000 mg/l - 48 h

### 13. Disposal Considerations

**Waste Disposal:** What is not recycled must be handled as hazardous waste and sent to an approved incinerator or disposed in an approved waste facility. Dispose of as organic waste.
14. References


15. Appendices

Not applicable

16. Revision History

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