

MATERIAL SAFETY DATA SHEET

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Version 1.7

Section 1 - Product and Company Information

Product Name ACETYLSALICYLIC ACID CRYSTALLINE
Product Number A5376
Brand SIGMA

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313 No
ACETYLSALICYLIC ACID	50-78-2	No

Formula C9H8O4
Synonyms Acenterine * Acesal * Aceticyl * Acetilsalicilico * Acetillum acidulatum * Acetisal * Acetol * Acetonyl * Acetophen * Acetosol * Acetosalic acid * Acetosalin * o-Acetoxybenzoic acid * 2-Acetoxybenzoic acid * Acetylin * 2-(Acetyloxy)benzoic acid * Acetylsal * Acetylsalicylic acid (ACGIH) * Acetylsalicylsaure (German) * Acido acetilsalicilico (Italian) * Acimetten * Acide acetilsalicylique (French) * Acido O-acetil-benzoico (Italian) * Acidum acetylsalicylicum * Acisal * Acylpyrin * A.S.A. empirin * Asagran * Aspergum * Aspidrops * Aspirin * Aspirina 03 * Aspro Clear * Asteric * AC 5230 * Benaspir * Benzoic acid, 2-(acetyloxy)-(9CI) * Bialpirinia * Caprin * o-Carboxyphenyl acetate * Colfarit * Contrheuma retard * Delgesic * Dolean pH 8 * Duramax * ECM * Ecotrin * Empirin * Endydol * Entericin * Enterosarine * Entrophen * Globoid * Helicon * Idragin * Istopirin * Kapsazal * Kyselina 2-acetoxybenzoova (Czech) * Kyselina acetylsalicylova (Czech) * Measurin * Medisyl * Micristin * Neuronika * Novid * Polopiryna * Rheumin tabletten * Rhonal * Salacetin * Salcetogen * Saletin * Solpyron *

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful.

Irritating to eyes, respiratory system and skin. Harmful if swallowed.

Calif. Prop. 65 developmental hazard. Possible sensitizer. Target organ(s): Blood.

HMIS RATING
HEALTH: 2*
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

482 °F 250 °C

AUTOIGNITION TEMP

500 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	5 MG/M3
New Zealand	OEL		
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	5 MG/M3

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
	Color: White	
	Form: Powder	
Property	Value	At Temperature or Pressure
Molecular Weight	180.16 AMU	
pH	3.5	20 °C Concentration: 2.5 g/l
BP/BP Range	N/A	
MP/MP Range	134.0 - 136.0 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	

Evaporation Rate	N/A
Viscosity	N/A
Surface Tension	N/A
Partition Coefficient	Log Kow: 1.19
Decomposition Temp.	140 °C
Flash Point	482 °F 250 °C
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	500 °C
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

SENSITIZATION

Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

TARGET ORGAN(S) OR SYSTEM(S)

Blood.

SIGNS AND SYMPTOMS OF EXPOSURE

The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

TOXICITY DATA

Oral

Rat

*

LD50

Oral

Rat

1,700 mg/kg

LD50

Oral

Rat

1,500 mg/kg

LD50
Oral
Mouse
*

LD50

Oral
Child
104 mg/kg
LDLO

Remarks: Lungs, Thorax, or Respiration:Acute pulmonary edema.
Gastrointestinal:Nausea or vomiting. Blood: Hemorrhage.

Oral
Rat
200 mg/kg
LD50

Intraperitoneal
Rat
340 MG/KG
LD50

Rectal
Rat
790 MG/KG
LD50

Oral
Mouse
250 mg/kg
LD50

Intraperitoneal
Mouse
167 MG/KG
LD50

Subcutaneous
Mouse
1020 MG/KG
LD50

Oral
Dog
700 mg/kg
LD50
Remarks: Lungs, Thorax, or Respiration:Respiratory depression.
Behavioral:Altered sleep time (including change in righting reflex).

Intravenous
Dog
681 MG/KG
LD50
Remarks: Behavioral:Analgesia.

Oral
Rabbit
1010 mg/kg
LD50
Remarks: Behavioral:Change in motor activity (specific assay).

Oral
Guinea pig
1075 mg/kg
LD50
Remarks: Behavioral:Tremor. Behavioral:Somnolence (general depressed activity). Behavioral:Altered sleep time (including change in righting reflex).

Oral
Hamster
3500 mg/kg
LD50

Oral
Mammal
1750 mg/kg
LD50

CHRONIC EXPOSURE - TERATOGEN

Species: Woman
Dose: 700 MG/KG
Route of Application: Oral
Exposure Time: (35-36W PREG)
Result: Effects on Newborn: Biochemical and metabolic. Specific Developmental Abnormalities: Cardiovascular (circulatory) system. Specific Developmental Abnormalities: Central nervous system.

Species: Woman
Dose: 546 MG/KG
Route of Application: Oral
Exposure Time: (37-39W PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities. Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Central nervous system.

Species: Woman
Dose: 17280 MG/KG
Route of Application: Oral
Exposure Time: (1-39W PREG)
Result: Effects on Newborn: Apgar score (human only). Specific Developmental Abnormalities: Respiratory system. Specific Developmental Abnormalities: Cardiovascular (circulatory) system.

Species: Rat
Dose: 500 MG/KG
Route of Application: Oral
Exposure Time: (9D PREG)
Result: Effects on Embryo or Fetus: Fetal death.

Species: Rat
Dose: 200 MG/KG
Route of Application: Oral
Exposure Time: (9D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 500 MG/KG

Route of Application: Oral
Exposure Time: (9D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Eye, ear. Specific Developmental Abnormalities: Central nervous system.

Species: Rat
Dose: 125 MG/KG
Route of Application: Oral
Exposure Time: (12D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 500 MG/KG
Route of Application: Subcutaneous
Exposure Time: (11D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 500 MG/KG
Route of Application: Subcutaneous
Exposure Time: (11D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Species: Rat
Dose: 3500 MG/KG
Route of Application: Unreported
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities. Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse
Dose: 800 MG/KG
Route of Application: Oral
Exposure Time: (17D PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities. Effects on Embryo or Fetus: Other effects to embryo. Effects on Embryo or Fetus: Fetal death.

Species: Mouse
Dose: 2500 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Dog
Dose: 3200 MG/KG
Route of Application: Oral
Exposure Time: (23-30D PREG)
Result: Specific Developmental Abnormalities: Respiratory system. Specific Developmental Abnormalities: Cardiovascular (circulatory) system. Specific Developmental Abnormalities: Musculoskeletal system.

Species: Dog
Dose: 3 GM/KG
Route of Application: Unreported
Exposure Time: (20-34D PREG)
Result: Effects on Embryo or Fetus: Fetal death.

Species: Cat
Dose: 300 MG/KG
Route of Application: Oral
Exposure Time: (10-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rabbit
Dose: 800 MG/KG
Route of Application: Oral
Exposure Time: (8-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Body wall.

Species: Rabbit
Dose: 1800 MG/KG
Route of Application: Oral
Exposure Time: (8-16D PREG)
Result: Effects on Embryo or Fetus: Fetal death. Specific Developmental Abnormalities: Cardiovascular (circulatory) system. Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rabbit
Dose: 1750 MG/KG
Route of Application: Oral
Exposure Time: (6-12D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rabbit
Dose: 11250 MG/KG
Route of Application: Unreported
Exposure Time: (16-30D PREG)
Result: Effects on Embryo or Fetus: Fetal death.

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 100 UMOL/L
Cell Type: lymphocyte
Mutation test: DNA inhibition

Species: Human
Dose: 75 MG/L
Cell Type: lymphocyte
Mutation test: Other mutation test systems

Species: Human
Dose: 100 MG/L
Cell Type: fibroblast
Mutation test: Cytogenetic analysis

Species: Human
Dose: 100 UG/L
Cell Type: leukocyte
Mutation test: Cytogenetic analysis

Species: Human
Dose: 10 MG/L
Cell Type: lymphocyte
Mutation test: Cytogenetic analysis

Species: Rat
Dose: 108 UG/PLATE
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Mouse
Route: Intraperitoneal
Dose: 100 MG/KG
Mutation test: Sister chromatid exchange

Species: Hamster
Dose: 1660 MG/L
Cell Type: lung
Mutation test: Cytogenetic analysis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Woman
Dose: 7500 MG/KG
Route of Application: Oral
Exposure Time: (34-37W PREG)
Result: Effects on Newborn: Stillbirth. Maternal Effects: Other effects.

Species: Woman
Dose: 546 MG/KG
Route of Application: Oral
Exposure Time: (37-39W PREG)
Result: Effects on Newborn: Other postnatal measures or effects.

Species: Woman
Dose: 17550 MG/KG
Route of Application: Oral
Exposure Time: (12-39W PREG)
Result: Maternal Effects: Parturition.

Species: Woman
Dose: 100 MG/KG
Route of Application: Oral
Exposure Time: (37W PREG)
Result: Effects on Newborn: Other neonatal measures or effects.

Species: Woman
Dose: 189 MG/KG
Route of Application: Oral
Exposure Time: (12-39W PREG)
Result: Maternal Effects: Parturition. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
Specific Developmental Abnormalities: Blood and lymphatic system

(including spleen and marrow).

Species: Woman
Dose: 1200 MG/KG
Route of Application: Unreported
Exposure Time: (20D PRE)
Result: Maternal Effects: Menstrual cycle changes or disorders.

Species: Rat
Dose: 1 GM/KG
Route of Application: Oral
Exposure Time: (12D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Effects on Embryo or Fetus: Fetal death.

Species: Rat
Dose: 2100 MG/KG
Route of Application: Oral
Exposure Time: (14D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat
Dose: 10 MG/KG
Route of Application: Oral
Exposure Time: (22D PREG)
Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on Newborn: Stillbirth.
Maternal Effects: Parturition.

Species: Rat
Dose: 1 GM/KG
Route of Application: Oral
Exposure Time: (3D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 1800 MG/KG
Route of Application: Subcutaneous
Exposure Time: (12D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat
Dose: 380 MG/KG
Route of Application: Subcutaneous
Exposure Time: (9D PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 500 MG/KG
Route of Application: Subcutaneous
Exposure Time: (11D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Effects on Embryo or Fetus: Fetal death. Effects on Fertility: Post-implantation mortality (e.g.,

dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 300 MG/KG
Route of Application: Subcutaneous
Exposure Time: (1D PRE)
Result: Effects on Fertility: Other measures of fertility

Species: Rat
Dose: 2 MG/KG
Route of Application: Intrauterine
Exposure Time: (4D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea).

Species: Mouse
Dose: 1200 MG/KG
Route of Application: Oral
Exposure Time: (8-9D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Mouse
Dose: 19200 MG/KG
Route of Application: Oral
Exposure Time: (6-21D PREG)
Result: Effects on Newborn: Other neonatal measures or effects.
Effects on Newborn: Stillbirth.

Species: Mouse
Dose: 500 MG/KG
Route of Application: Subcutaneous
Exposure Time: (11D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rabbit
Dose: 600 MG/KG
Route of Application: Oral
Exposure Time: (2D PRE)
Result: Effects on Fertility: Other measures of fertility

Section 12 - Ecological Information

No data available.

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 168 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local

environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 36/37/38-22
Risk Statements: Irritating to eyes, respiratory system and skin. Harmful if swallowed.
S: 26
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.
Risk Statements: Harmful if swallowed. Irritating to eyes, respiratory system and skin.
Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe dust.
US Statements: Calif. Prop. 65 developmental hazard. Possible sensitizer. Target organ(s): Blood.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause female developmental toxicity.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not

purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.