Section 1 - Product and Company Information

Product Name                      ACETAMIDE
Product Number                    A0500
Brand                             SIGMA
Company                           Sigma-Aldrich
Street Address                    3050 Spruce Street
City, State, Zip, Country         SAINT LOUIS MO 63103 US
Technical Phone:                  314 771 5765
Emergency Phone:                  414 273 3850 Ext. 5996
Fax:                              800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name                    ACETAMIDE
CAS #                             60-35-5
SARA 313                          Yes

Formula                           C2H5NO
Synonyms                          Acetic acid amide, Acetimidic acid,
                                 Amid kyseliny octove (Czech), Ethanamide,
                                 Methanecarboxamide, NCI-C02108
RTECS Number:                    AB4025000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful.
Limited evidence of a carcinogenic effect.
Possible Carcinogen (US). Target organ(s): Liver.

HMIS RATING
HEALTH: 0*
FLAMMABILITY: 0
REACTIVITY: 1

NFPA RATING
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 1

*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 breathing becomes difficult, call a physician.

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

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

EXPLOSION DATA
Dust Potential: This material, like most materials in powder form, is capable of creating a dust explosion.

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

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. Shut off leak if there is no risk.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

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.

ENVIRONMENTAL PRECAUTION(S)
Avoid contaminating water supply. Avoid contaminating sewers and waterways with this material.

Section 7 - Handling and Storage
HANDLING
User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

SPECIAL REQUIREMENTS
Moisture sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator in nonventilated areas and/or for exposure above the TLV or PEL.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS
<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACGIH</td>
<td>TLV STEL</td>
<td>15 ppm</td>
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</tbody>
</table>

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Physical State: Solid.</td>
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</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Crystals</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
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<td></td>
</tr>
<tr>
<td>pH</td>
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<tr>
<td>BP/BP Range</td>
<td>221 °C</td>
<td>760 mmHg</td>
</tr>
<tr>
<td>MP/MP Range</td>
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<td></td>
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<tr>
<td>Freezing Point</td>
<td>81 °C</td>
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<tr>
<td>Vapor Pressure</td>
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<td>65 °C</td>
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<tr>
<td>Vapor Density</td>
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<tr>
<td>Saturated Vapor Conc.</td>
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</tr>
<tr>
<td>SG/Density</td>
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</tr>
<tr>
<td>Bulk Density</td>
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</tr>
<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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</tr>
<tr>
<td>VOC Content</td>
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<tr>
<td>Water Content</td>
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<tr>
<td>Solvent Content</td>
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<tr>
<td>Evaporation Rate</td>
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</tr>
<tr>
<td>Viscosity</td>
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<tr>
<td>Surface Tension</td>
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<td></td>
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<tr>
<td>Partition Coefficient</td>
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<tr>
<td>Decomposition Temp.</td>
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<tr>
<td>Flash Point</td>
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<td></td>
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<tr>
<td>Explosion Limits</td>
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<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
Autoignition Temp       N/A
Refractive Index        N/A
Optical Rotation        N/A
Miscellaneous Data      N/A
Solubility              Solubility in Water:
                        Soluble.

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Sensitive to moisture.
Materials to Avoid: Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Ammonia.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)
Liver.

TOXICITY DATA
Oral
    Rat
    7,000 mg/kg
    CAS # 60-35-5
    LD50
Oral
    Rat
    3,310 mg/kg
    CAS # 64-19-7
    LD50
Skin
    Rabbit
    1,060 mg/kg
    CAS # 64-19-7
    LD50
    Inhalation
    Rat
    16,000 ppm
    CAS # 64-19-7
    LC50

Oral
Rat
7,000 mg/kg
LD50

Intraperitoneal
Rat
10300 MG/KG
LD50

Subcutaneous
Rat
10 GM/KG
LD50

Intravenous
Rat
12500 MG/KG
LD50

Oral
Mouse
12,900 mg/kg
LD50

Intraperitoneal
Mouse
1 GM/KG
LD50

Subcutaneous
Mouse
8300 MG/KG
LD50

Intravenous
Mouse
10 GM/KG
LD50

Intravenous
Rabbit
7500 MG/KG
LD50

CHRONIC EXPOSURE - CARCINOGEN
Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat
Route of Application: Oral
Dose: 431 GM/KG
Exposure Time: 1Y
Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria. Liver: Tumors. Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Species: Mouse
Route of Application: Oral
Dose: 517 GM/KG
Exposure Time: 1Y
Frequency: C

Species: Rat
Route of Application: Oral
Dose: 546 GM/KG
Exposure Time: 52W
Frequency: C
Result: Tumorigenic: Neoplastic by RTECS criteria. Liver: Tumors.

IARC CARCINOGEN LIST
Rating: Group 2B

CHRONIC EXPOSURE - TERATOGEN

Species: Rabbit
Dose: 13 GM/KG
Route of Application: Oral
Exposure Time: (6-18D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Dose: 5 MG/L
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Mouse
Route: Oral
Dose: 3390 UMOL/KG
Mutation test: Micronucleus test

Species: Mouse
Dose: 10 PPH
Cell Type: Ascites tumor
Mutation test: Other mutation test systems

Species: Hamster  
Dose: 1 MG/L  
Cell Type: Embryo  
Mutation test: Morphological transformation.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rabbit  
Dose: 39 GM/KG  
Route of Application: Oral  
Exposure Time: (6-18D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).  
Specific Developmental Abnormalities: Musculoskeletal system.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION  
Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT  
Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.  
UN#: 3077  
Class: 9  
Packing Group: Packing Group III  
Hazard Label: Class 9  
PIH: Not PIH

IATA  
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s  
IATA UN Number: 3077  
Hazard Class: 9  
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION  
Symbol of Danger: Xn  
Indication of Danger: Harmful.  
R: 40  
Risk Statements: Limited evidence of a carcinogenic effect.  
S: 36/37  
Safety Statements: Wear suitable protective clothing and gloves.

US CLASSIFICATION AND LABEL TEXT  
Indication of Danger: Harmful.
Risk Statements: Limited evidence of a carcinogenic effect.
Safety Statements: Wear suitable protective clothing.
US Statements: Possible Carcinogen (US). Target organ(s): Liver.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: Yes
DEMINIMIS: 0.1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
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 cancer.

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
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