

## SAFETY DATA SHEET

Preparation Date: 12/1/2016

Revision Date: Not Applicable

Revision Number: Not Applicable

### 1. IDENTIFICATION

**Product identifier**

**Product code:** A1488  
**Product Name:** 4-Aminobutyraldehyde Dimethyl Acetal

**Other means of identification**

**Synonyms:** No information available  
**CAS #:** 19060-15-2  
**RTECS #** Not available  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** For manufacturing or laboratory use only.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000.

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300

**Contact Person:** Martin LaBenz (West Coast)

**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Flammable liquids	Category 3

**Label elements**

**Danger**

**Hazard statements**

Harmful if swallowed  
 Causes severe skin burns and eye damage  
 May cause an allergic skin reaction  
 Flammable liquid and vapor



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/./? /equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Contaminated work clothing must not be allowed out of the workplace  
Keep container tightly closed

**Precautionary Statements - Response**

*Immediately call a POISON CENTER or doctor/physician*

IN CASE OF FIRE: Use dry chemical, water spray, alcohol-resistant foam or CO<sub>2</sub> to extinguish.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	100

**4. FIRST AID MEASURES**

**First aid measures**

**Product code:** A1488

**Product name:** 4-Aminobutyraldehyde  
Dimethyl Acetal

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**General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

**Skin Contact:** Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

**Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Severe skin and eye irritation or burns. Burning sensation in the mouth and stomach. Can burn mouth, throat, and stomach. May cause perforation of the digestive tract. May cause irritation of respiratory tract. Harmful if swallowed. May cause an allergic skin reaction. May cause sensitization by skin contact.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray, mist, or foam.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon Oxides. Nitrogen Oxides.

**Specific hazards:** Flammable  
May be ignited by heat, sparks or flames  
Container explosion may occur under fire conditions or when heated  
Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks)

## **Special Protective Actions for Firefighters**

### **Specific Methods:**

For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

### **Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal Precautions:**

Remove all sources of ignition. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. All equipment used when handling the product must be grounded. Remove all sources of ignition. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Keep away from sources of ignition - no smoking. Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage, including any incompatibilities**

#### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Store away from incompatible materials. Store at room temperature in the original container. Store in a segregated and approved area. Store under inert gas. Packed under Argon. Hygroscopic. Protect from moisture.

#### **Incompatible Materials:**

Oxidizing agents

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

#### **National occupational exposure limits**

## United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	None	None	None	None

## Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	None	None	None	None

## Australia and Mexico

Components	CAS-No.	Australia	Mexico
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	None	None

## Appropriate engineering controls

### Engineering measures to reduce exposure:

Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

## Individual protection measures, such as personal protective equipment

### Personal Protective Equipment

- Eye protection:** Goggles or Face-shield
- Skin and body protection:** Gloves. Long sleeved clothing. Chemical resistant apron.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> Clear.	<b>Color:</b> Colorless to pale yellow.
<b>Odor:</b> No information available.	<b>Taste</b> No information available.	<b>Formula:</b> C <sub>6</sub> H <sub>15</sub> NO <sub>2</sub>
<b>Molecular/Formula weight:</b> 133.19	<b>Flammability:</b> Flammable	<b>Flashpoint (°C/°F):</b> 59°C (138°F)
<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 85°C (185°F)	<b>Bulk density:</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> 0.95

**Product code:** A1488

**Product name:** 4-Aminobutyraldehyde  
Dimethyl Acetal

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**Specific gravity:**  
No information available

**pH:**  
No information available

**Vapor pressure @ 20°C (kPa):**  
No information available

**Evaporation rate:**  
No information available

**Vapor density:**  
No information available

**VOC content (g/L):**  
No information available

**Odor threshold (ppm):**  
No information available

**Partition coefficient  
(n-octanol/water):**  
No information available

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents  
Hygroscopic. It absorbs moisture from the air

### Chemical stability

**Stability:** Hygroscopic. Sensitive to air. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Exposure to air. Exposure to moisture. Ignition sources. Incompatible materials.

**Incompatible Materials:** Oxidizing agents

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx).

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Skin. Eyes. Inhalation. Ingestion.

### Acute Toxicity

### **Component Information**

4-Aminobutyraldehyde Dimethyl Acetal

CAS-No.	19060-15-2
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**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available

LC50/inhalation/mouse = No information available  
Other LD50 or LC50 information = No information available

#### Product Information

LD50/oral/rat =  
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =  
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit  
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat  
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat  
VALUE-Vapor = No information available  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse  
VALUE-Vapor = No information available  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

#### Symptoms

**Skin Contact:** Corrosive. Contact causes severe skin irritation and possible burns. Can cause burning pain, inflammation and blisters. May cause sensitization by skin contact. May cause allergic skin reaction.

**Eye Contact:** Causes severe irritation and burns. Corrosive to the eyes and may cause severe damage including blindness. Can cause severe injury.

**Inhalation** May cause irritation of respiratory tract.

**Ingestion** Harmful if swallowed. Causes digestive or gastrointestinal tract burns. May cause perforation of the digestive tract. Corrosive to the mouth, throat, and stomach. Symptoms may include a burning sensation in the mouth, throat, and stomach. Ingestion may cause nausea, vomiting.

**Aspiration hazard** No information available.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** No information available.

**Sensitization:** May cause sensitization by skin contact.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic	Australia - Prohibited Carcinogenic
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						<b>Substances</b>	<b>Substances</b>
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	None	None	None	None

**14. TRANSPORT INFORMATION**

**DOT**

**UN-No:** UN2924

**Proper Shipping Name:** Flammable liquids, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal)

**Hazard Class:** 3

**Product code:** A1488

**Product name:** 4-Aminobutyraldehyde  
Dimethyl Acetal

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**Subsidiary Class** 8  
**Packing group:** III  
**Emergency Response Guide Number** 132  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** B1, IB3, T7, TP1, TP28  
**Symbol(s):** [DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.  
**Description:** UN2924, Flammable liquids, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III

#### TDG (Canada)

**UN-No:** UN2924  
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** III  
**Marine Pollutant** No Information available  
**Description:** UN2924, Flammable liquid, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III

#### ADR

**UN-No:** UN2924  
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.  
**Hazard Class:** 3  
**Packing Group:** III  
**Subsidiary Risk:** 3  
**Special Provisions** 274  
**Description:** UN2924, Flammable liquid, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III

#### IMO / IMDG

**UN-No:** UN2924  
**Proper Shipping Name:** Corrosive liquids, flammable, n.o.s. (N,N-diethyl-1,1,2,3,3-hexafluoropropylamine)  
Flammable liquids, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal)  
**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** III  
**Marine Pollutant** No information available  
**EMS:** F-E  
**Special Provisions** 223, 274  
**Description** UN2924, Flammable liquid, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III

#### RID

**UN-No:** UN2924  
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** III  
**Special Provisions** 274  
**Description:** UN2924, Flammable liquid, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III

#### ICAO

**UN-No:** UN2924  
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.

**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** III  
**Description:** UN2924, Flammable liquid, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III  
**Special Provisions** A3

**IATA**

**UN-No:** UN2924  
**Proper Shipping Name:** Flammable liquid, corrosive, n.o.s.  
**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** III  
**ERG Code:** 3C  
**Special Provisions** No information available  
**Description:** UN2924, Flammable liquid, corrosive, n.o.s. (4-Aminobutyraldehyde Dimethyl Acetal), 3 (8), III

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Present P	Not present	Not present	Not present	Not present	Not present	Not present

**U.S. Regulations**

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	None	None	None	None	None

**U.S. TSCA**

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Not Applicable	Not Applicable

**Canada**

**WHMIS hazard class:**

B3 Combustible liquid

D2B Toxic materials

E Corrosive material

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

**Inventory**

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Not Listed	Present

Components	CAS-No.	CEPA Schedule I - Toxic Substances
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Not listed

**EU Classification****R-phrase(s)**

R22 - Harmful if swallowed.

R34 - Causes burns.

R43 - May cause sensitization by skin contact.

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**S -phrase(s)**

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
4-Aminobutyraldehyde Dimethyl Acetal	19060-15-2	Xn; R22 C; R34 R43 R52-53	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

C - Corrosive.

Xn - Harmful.

**16. OTHER INFORMATION**

Preparation Date: 12/1/2016

Product code: A1488

Product name: 4-Aminobutyraldehyde  
Dimethyl Acetal

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**Revision Date:**  
**Prepared by:**

Not Applicable  
Roumann Pangilinan

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**