

SAFETY DATA SHEET

Preparation Date: 03/25/2019

Revision date 03/25/2019

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: B2271
Product Name: BUTYRALDEHYDE

Other means of identification

Synonyms: Aldehyde butyrique (French)
 Aldeide butirrica (Italian)
 Butal
 Butaldehyde
 Butalyde
 n-Butanal (Czech)
 Butanaldehyde
 n-Butyl aldehyde
 Butyral
 Butyraldehyd (German)
 Butyric aldehyde
 n-Butyraldehyde

CAS #: 123-72-8
RTECS # ES2275000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
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: Tom Tyner (USA - West Coast)

Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

Label elements

Danger

Hazard statements

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation. May cause drowsiness or dizziness

Highly flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting/.../equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Keep cool

Precautionary Statements - Response

In case of fire: Use CO₂, dry chemical, or foam to extinguish.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention

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

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Butyraldehyde	123-72-8	100

4. FIRST AID MEASURES

First aid measures

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.
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
Eye Contact:	Flush eyes with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms	Causes skin irritation Causes serious eye irritation May cause respiratory irritation
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Indication of any immediate medical attention and special treatment needed

Notes to Physician:	Treat symptomatically.
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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: Carbon dioxide (CO₂). Dry chemical. Alcohol-resistant foam. Water spray.

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 monoxide. Carbon dioxide (CO₂).

Specific hazards Flammable. May be ignited by heat, sparks or flames. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

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:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. 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. Use only non-sparking tools. 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. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. 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. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
Strong reducing agents
Strong bases
Strong acids
Alkalis

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Butyraldehyde	123-72-8	None	None	None	25 ppm TWA 75 mg/m ³ TWA

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Butyraldehyde	123-72-8	None	None	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
Butyraldehyde	123-72-8	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. 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

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves

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

Physical state:
Liquid

Appearance:
No information available.

Color:
Colorless to pale yellow.

Odor:
No information available.

Taste
No information available.

Formula
C₄H₈O

Molecular/Formula weight (g/mole):
72.11

Flammability (solid, gas)
no data available

Flashpoint (°C/°F):
-6.68°C/ 20°F
°C/ 15°F

Flash Point Tested according to:
Closed cup
Open cup

Autoignition Temperature (°C/°F):
190-230°C/ 374-446°F

Lower Explosion Limit (%):
1.8

Upper Explosion Limit (%):
8

Melting point/range(°C/°F):
-96.4°C/ -141.5°F

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
74.8°C/ 166.6°F

Bulk density:
No information available

Density (g/cm3):
0.80

Specific gravity:
No information available

pH
No information available

Vapor pressure @ 20°C (kPa):
12.3

Evaporation rate:
No information available

Vapor density:
2.5

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
0.79

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Soluble in Water
Soluble in Methanol
Soluble in Ether
Soluble in n-octanol
Soluble in Acetone
Soluble in Benzene
Soluble in Toluene

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization may occur

Conditions to avoid: Heat, flames and sparks. Incompatible materials.

Incompatible Materials: Oxidizing agents
Strong reducing agents
Strong bases
Strong acids
Alkalis

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

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

The following values are calculated based on chapter 3.1 of the GHS document
Component Information

Butyraldehyde	
CAS No	123-72-8

LD50/oral/rat = 4240 mg/kg Oral LD50 Rat = 2490 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = 1370 mg/kg Dermal LD50 Rabbit = 3560 mg/kg Dermal LD50 Rabbit
LD50/dermal/rat = No information available
LC50/inhalation/rat = 6400 ppm Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = 44610 mg/m³ Inhalation LC50 Mouse 2 h
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
Value - Acute Tox = 2490 mg/kg

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

LD50/dermal/rabbit
Value - Acute Tox = 3560 mg/kg

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

LC50/inhalation/rat
VALUE-Vapor = 6400 ppm
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = 44610 mg/m³
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation.

Eye Contact: Causes serious eye irritation.

Inhalation May cause respiratory irritation. Inhalation of vapors may cause drowsiness and dizziness.

Ingestion May cause digestive (gastrointestinal) tract irritation.

Aspiration hazard No information available.

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

Chronic Toxicity Prolonged or repeated ingestion may affect the blood. Prolonged or repeated ingestion may affect the liver. Prolonged exposure causes local irritation of skin and mucous membranes, especially to the eyes.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Butyraldehyde	123-72-8	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 respiratory system.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Butyraldehyde - 123-72-8

Fish LC50: 13.0 - 13.8mg/L (96h, Pimephales promelas) LC50: =14.7mg/L (96h, Pimephales promelas) LC50: =25.8mg/L (96h, Pimephales promelas)

Crustacea EC50: =195mg/L (24h, Daphnia magna)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available

Other adverse effects 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

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Butyraldehyde	123-72-8	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1129
Proper Shipping Name: Butyraldehyde
Hazard Class 3
Subsidiary Class No information available
Packing group: II
Emergency Response Guide Number 129
Marine Pollutant Severe Marine Pollutant
DOT RQ (lbs): No information available
Special Provisions IB2, T4, TP1
Symbol(s): No information available
Description: UN1129, Butyraldehyde, 3, II

TDG (Canada)

UN-No: UN1129
Proper Shipping Name: Butyraldehyde
Hazard Class 3
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No Information available
Description: UN1129, Butyraldehyde, 3, II

ADR

UN Number UN1129
Proper Shipping Name: Butyraldehyde
Transport hazard class(es) 3
Packing group II
Subsidiary Risk: No information available
Description: UN1129, Butyraldehyde, 3, II

IMDG

UN-No: UN1129
Proper Shipping Name: Butyraldehyde
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No information available
EMS: F-E
Description UN1129, Butyraldehyde, 3, II

RID

UN Number UN1129
Proper Shipping Name: Butyraldehyde
Transport hazard class(es) 3
Subsidiary Risk: No information available
Packing group II
Description: UN1129, Butyraldehyde, 3, II

ICAO (air)

UN-No: UN1129
Proper Shipping Name: Butyraldehyde
Hazard Class 3
Subsidiary Risk: No information available
Packing Group: II
Description: UN1129, Butyraldehyde, 3, II

IATA

UN Number UN1129
Proper Shipping Name: Butyraldehyde
Transport hazard class(es) 3
Subsidiary Risk: No information available
Packing group II
Precautionary Statements - Response 3L
Special Provisions No information available
Description: UN1129, Butyraldehyde, 3, II

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Butyraldehyde	123-72-8	PresentACTIVE	Present KE-03746	Present	Present (2)-494	Present	Present	Present 204-646-6

U.S. Regulations

Butyraldehyde

- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 0299
- New Jersey (EHS) List: 0299 500 lb TPQ
- New Jersey - Discharge Prevention - List of Hazardous Substances: Present
- Pennsylvania RTK: Environmental hazard
- Pennsylvania RTK - Environmental Hazard List Present
- Minnesota - Hazardous Substance List: Present

FDA - Direct Food Additives 21 CFR 172.515
FDA - 21 CFR - Total Food Additives 172.515, 175.105, 176.170
- List Sourced from EAFUS

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)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Butyraldehyde	123-72-8	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	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
Butyraldehyde	123-72-8	None	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Butyraldehyde	123-72-8	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Butyraldehyde
123-72-8 (100)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2B: H320 Causes eye irritation.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Butyraldehyde	123-72-8	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Butyraldehyde	123-72-8	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Butyraldehyde	123-72-8	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Butyraldehyde	123-72-8	Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.605-006-00-2

EU - CLP (1272/2008)

R-phrase(s)

R11 - Highly flammable
R67 - Vapors may cause drowsiness and dizziness.
R36/37/38 - Irritating to eyes, respiratory system and skin

S -phrase(s)

S16 - Keep away from sources of ignition - No smoking
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Butyraldehyde	123-72-8	F; R11	No information	

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

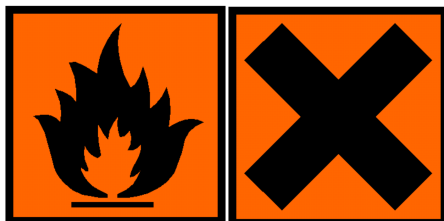
Indication of danger:

F - Highly flammable

Xi - Irritant

F

Xi



16. OTHER INFORMATION

Preparation Date: 03/25/2019
Revision date 03/25/2019
Prepared by: Sonia Owen

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