

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance
Trade name	: Aldehyde C-10
CAS No	: 112-31-2
Product code	: A2000
Formula	: C10H20O
Synonyms	: 1-decanal / 1-decyl aldehyde / aldehyde C10 / C10 aldehyde / C-10 aldehyde / capraldehyde / capric aldehyde / caprinaldehyde / caprinic aldehyde / caprylaldehyde / decaldehyde / decanaldehyde / decyl aldehyde / decylic aldehyde / Environmentally hazardous substance, liquid, n.o.s. / FEMA no 2362 / n-decaldehyde / n-decanal / n-decyl aldehyde / normal-decaldehyde
BIG no	: 13428

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.3. Details of the supplier of the safety data sheet

CHEMTEX USA  
27-29 Dwight Place  
Fairfield, 07004 - USA  
T 862-702-8900 - F 862-702-8180  
[contact@chemtexusa.com](mailto:contact@chemtexusa.com) - [www.chemtexusa.com](http://www.chemtexusa.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTEL:(800)255-3924

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Flam. Liq. 4 H227  
Skin Irrit. 2 H315  
Eye Irrit. 2A H319  
Aquatic Acute 2 H401  
Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H227 - Combustible liquid  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H401 - Toxic to aquatic life  
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
P264 - Wash skin thoroughly after handling  
P273 - Avoid release to the environment  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P302+P352 - If on skin: Wash with plenty of water  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P321 - Specific treatment (see supplemental label on this label)  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P337+P313 - If eye irritation persists: Get medical advice/attention

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P362 - Take off contaminated clothing and wash it before reuse  
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO<sub>2</sub>) to extinguish  
P403+P235 - Store in a well-ventilated place. Keep cool  
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS-US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
Aldehyde c 10 (Main constituent)	(CAS No) 112-31-2	100	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Aquatic Acute 2, H401 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove the victim into fresh air. Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	: Wash immediately with lots of water (15 minutes)/shower. Soap may be used. Do not apply (chemical) neutralizing agents. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see ... on this label).
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Rinse immediately with plenty of water for 15 minutes. Take victim to an ophthalmologist. Do not apply neutralizing agents. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth with water. Do not induce vomiting. Ingestion of large quantities: immediately to hospital. Call Poison Information Centre ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact	: Tingling/irritation of the skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Irritation of the eye tissue. Causes serious eye irritation.
Symptoms/injuries after ingestion	: Risk of aspiration pneumonia.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Preferably: BC powder. Preferably: carbon dioxide. Alcohol-resistant foam. Polymer foam. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Solid water jet ineffective as extinguishing medium. Do not use a heavy water stream.

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### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : DIRECT FIRE HAZARD. Material presenting a fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard". Combustible liquid.
- Explosion hazard : DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard. May form flammable/explosive vapor-air mixture.
- Reactivity : Upon combustion: CO and CO<sub>2</sub> are formed. Reacts with organic material: risk of spontaneous ignition.

### 5.3. Advice for firefighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Face-shield. Protective clothing. See "Material-Handling" to select protective clothing.
- Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill.
- Methods for cleaning up : Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Precautions for safe handling : Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking.
- Hygiene measures : Wash ... thoroughly after handling.

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### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. Keep in fireproof place.
Incompatible products	: Strong bases. strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.
Maximum storage period	: 180 days
Heat-ignition	: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) bases. organic materials.
Storage area	: Store in a cool area. Store in a dark area. Ventilation at floor level. Provide for a tub to collect spills. May be stored under nitrogen. May be stored under argon. Meet the legal requirements.
Special rules on packaging	: SPECIAL REQUIREMENTS: hermetical. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: glass. aluminium.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Aldehyde C-10 (112-31-2)	
ACGIH	Not applicable
OSHA	Not applicable

### 8.2. Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure.
Materials for protective clothing	: GIVE GOOD RESISTANCE: rubber.
Hand protection	: Gloves. Wear protective gloves.
Eye protection	: Face shield. Chemical goggles or safety glasses.
Skin and body protection	: Protective clothing. Wear suitable protective clothing.
Respiratory protection	: High gas/vapour concentration: gas mask. Wear approved mask.
Other information	: When using, do not eat, drink or smoke.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colourless to light yellow On exposure to air: yellow
Odor	: Lemon odour Floral odour
Odor threshold	: No data available
pH	: No data available
Melting point	: -5 °C
Freezing point	: No data available
Boiling point	: 209 °C
Flash point	: 83 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: 0.14 hPa
Relative density	: 0.83
Relative vapor density at 20 °C	: 5.39

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Molecular mass	: 156.3 g/mol
Solubility	: Insoluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in oil.
Log Pow	: 3.76 (Estimated value)
Log Kow	: No data available
Auto-ignition temperature	: 200 °C
Decomposition temperature	: 209 °C
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.0018 Pa.s

### 9.2. Other information

VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Slightly volatile.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Upon combustion: CO and CO<sub>2</sub> are formed. Reacts with organic material: risk of spontaneous ignition.

### 10.2. Chemical stability

Unstable on exposure to air. Unstable on exposure to light. Combustible liquid. May form flammable/explosive vapor-air mixture.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

### 10.5. Incompatible materials

strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Aldehyde C-10 (112-31-2)	
LD50 oral rat	3096 mg/kg (Rat)
LD50 dermal rabbit	5040 µl/kg (Rabbit)
ATE US (oral)	3096.000 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after skin contact	: Tingling/irritation of the skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Irritation of the eye tissue. Causes serious eye irritation.
Symptoms/injuries after ingestion	: Risk of aspiration pneumonia.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Mild water pollutant (surface water). Fouling to shoreline. No data available on ecotoxicity. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Aldehyde C-10 (112-31-2)	
LC50 fish 1	3.669 mg/l

#### 12.2. Persistence and degradability

Aldehyde C-10 (112-31-2)	
Persistence and degradability	Not readily biodegradable in water. May cause long-term adverse effects in the environment.
BOD (% of ThOD)	(5 day(s)) 0.022

#### 12.3. Bioaccumulative potential

Aldehyde C-10 (112-31-2)	
BCF other aquatic organisms 1	420 (QSAR)
Log Pow	3.76 (Estimated value)
Bioaccumulative potential	Bioaccumable. Not established.

#### 12.4. Mobility in soil

Aldehyde C-10 (112-31-2)	
Surface tension	0.0280 N/m

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Use appropriate containment to avoid environmental contamination. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Additional information : Hazardous waste according to Directive 2008/98/EC. Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s., 9, III

UN-No.(DOT) : UN3082

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.

Transport hazard class(es) (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Packing group (DOT) : III - Minor Danger

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

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DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### Additional information

Other information : No supplementary information available.

### ADR

Transport document description	: UN 3082, 9, III, (E)
Packing group (ADR)	: III
Class (ADR)	: 9 - Miscellaneous dangerous substances and articles
Hazard identification number (Kemler No.)	: 90
Classification code (ADR)	: M6
Hazard labels (ADR)	: 9 - Miscellaneous dangerous compounds



Orange plates : 

Tunnel restriction code (ADR) : E

### Transport by sea

UN-No. (IMDG)	: 3082
Class (IMDG)	: 9 - Miscellaneous dangerous compounds
EmS-No. (1)	: F-A
EmS-No. (2)	: S-F

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### Air transport

UN-No. (IATA) : 3082  
Class (IATA) : 9 - Miscellaneous Dangerous Goods  
Packing group (IATA) : III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Aldehyde C-10 (112-31-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Eye Irrit. 2 H319

Full text of H-phrases: see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36/38

Full text of R-phrases: see section 16

#### National regulations

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Other information : None.

Full text of H-phrases:

Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 4	Flammable liquids Category 4
Skin Irrit. 2	Skin corrosion/irritation Category 2
H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation
H401	Toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

SDS US (GHS HazCom 2012)

#### Disclaimer:

150 River Road, Suite G3B, Montville, NJ 07045. Ph. # (973) 335-2500; Fax # (973) 335-2552.

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