

Material Safety Data Sheet

Lead(II) perchlorate trihydrate

ACC# 75015

Section 1 - Chemical Product and Company Identification

MSDS Name: Lead(II) perchlorate trihydrate

Catalog Numbers: AC194730000, AC194730500, AC194732500, AC254590000, AC254590250, AC254592500 AC254592500

Synonyms: Perchloric acid, lead(2+) salt, trihydrate.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent | EINECS/ELINCS |
|------------|---------------------------------|---------|---------------|
| 13453-62-8 | Lead(II) perchlorate trihydrate | >95 | unlisted |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystals.

Danger! Strong oxidizer. Contact with other material may cause a fire. Harmful if swallowed, inhaled, or absorbed through the skin.

May cause harm to the unborn child. May cause eye, skin, and respiratory tract irritation. May cause cancer based on animal studies.

Danger of cumulative effects. Marine pollutant. Possible risk of impaired fertility.

Target Organs: Blood, kidneys, central nervous system, reproductive system.

Potential Health Effects

Eye: May cause eye irritation. The toxicological properties of this material have not been fully investigated.

Skin: May cause skin irritation. The toxicological properties of this material have not been fully investigated.

Ingestion: Ingestion of lead compounds can cause toxic effects in the blood-forming organs, kidneys and central nervous system.

Ingestion of lead compounds can produce symptoms of lead poisoning. Symptoms of lead poisoning or plumbism include weakness, weight loss, lassitude, insomnia, and hypotension. It also includes constipation, anorexia, abdominal discomfort and colic.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: Chronic exposure to lead may result in plumbism which is characterized by lead line in gum, headache, muscle weakness, mental changes. Chronic exposure to lead may cause adverse effects on human reproduction, embryonic and fetal development and postnatal (e.g., mental) development.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. Use water with caution and in flooding amounts.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: N/A

Upper: N/A

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 1; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Provide ventilation. Keep combustibles (wood,

paper, oil, etc.,) away from spilled material.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Keep from contact with clothing and other combustible materials. Avoid breathing dust.

Storage: Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|---------------------------------|------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Lead(II) perchlorate trihydrate | 0.05 mg/m3 TWA (as Pb) (listed under Lead, inorganic compounds). | 0.050 mg/m3 TWA (as Pb) (listed under Lead compounds). | 50 æg/m3 TWA (as Pb); 30 æg/m3 Action Level (as Pb. Poison - see 29 CFR 1910.10 25) (listed under Lead, inorganic compounds). |
| Lead perchlorate | 0.05 mg/m3 TWA (as Pb) (listed under Lead, inorganic compounds). | 0.050 mg/m3 TWA (as Pb) (listed under Lead compounds). | 50 æg/m3 TWA (as Pb); 30 æg/m3 Action Level (as Pb. Poison - see 29 CFR 1910.10 25) (listed under Lead, inorganic compounds). |

OSHA Vacated PELs: Lead(II) perchlorate trihydrate: No OSHA Vacated PELs are listed for this chemical. Lead perchlorate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. Refer to 29 CFR1910.1025 for regulations on respiratory protection required during exposure to lead and lead compounds.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: white

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point:100 deg C (dec)

Decomposition Temperature:100 deg C

Solubility: Soluble.

Specific Gravity/Density:2.6000

Molecular Formula:PbCl2O8H6O3

Molecular Weight:460.14

Section 10 - Stability and Reactivity

Chemical Stability: Has not been fully evaluated.

Conditions to Avoid: Dust generation.

Incompatibilities with Other Materials: Strong reducing agents, organic matter, combustible materials.

Hazardous Decomposition Products: Lead/lead oxides, chloride fumes.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 13453-62-8 unlisted.

CAS# 13637-76-8: SC8100000

LD50/LC50:

Not available.

Not available.

Carcinogenicity:

CAS# 13453-62-8:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans (listed as 'Lead, inorganic compounds').
- **California:** carcinogen, initial date 10/1/92 (listed as Lead compounds).
- **NTP:** Suspect carcinogen (listed as Lead compounds).
- **IARC:** Group 2A carcinogen (listed as Lead, inorganic compounds).

CAS# 13637-76-8:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans (listed as 'Lead, inorganic compounds').
- **California:** carcinogen, initial date 10/1/92 (listed as Lead compounds).
- **NTP:** Suspect carcinogen (listed as Lead compounds).
- **IARC:** Group 2A carcinogen (listed as Lead, inorganic compounds).

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: Repeated exposure to lead has caused neurological changes.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: No information available.

Physical: No information available.

Other: Marine pollutant.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

| | US DOT | Canada TDG |
|-----------------------|-------------------------|-------------------------|
| Shipping Name: | LEAD PERCHLORATE, SOLID | LEAD PERCHLORATE, Solid |
| Hazard Class: | 5.1 | 5.1(6.1) |
| UN Number: | UN1470 | UN1470 |
| Packing Group: | II | II |

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 13453-62-8 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 13637-76-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313

This material contains Lead(II) perchlorate trihydrate (listed as Lead, inorganic compounds), >95%, (CAS# 13453-62-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Lead perchlorate (listed as Lead, inorganic compounds), -%, (CAS# 13637-76-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 13453-62-8 (listed as Lead compounds) is listed as a hazardous air pollutant (HAP).

CAS# 13637-76-8 (listed as Lead compounds) is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA. CAS# 13453-62-8 is listed as a Toxic Pollutant under the Clean Water Act. CAS# 13637-76-8 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 13453-62-8 can be found on the following state right to know lists: California, (listed as Lead compounds), Pennsylvania, (listed as Lead compounds), Minnesota, (listed as Lead, inorganic compounds).

CAS# 13637-76-8 can be found on the following state right to know lists: California, (listed as Lead compounds), New Jersey, Pennsylvania, (listed as Lead compounds), Minnesota, (listed as Lead, inorganic compounds), Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Lead(II) perchlorate trihydrate, listed as 'Lead compounds', a chemical known to the state of California to cause cancer. WARNING: This product contains Lead perchlorate, listed as 'Lead compounds', a chemical known to the state of California to cause cancer. WARNING: This product contains Lead(II) perchlorate trihydrate, listed as 'Lead, inorganic compounds', a chemical known to the state of California to cause developmental reproductive toxicity.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T O N

Risk Phrases:

R 20/22 Harmful by inhalation and if swallowed.
R 33 Danger of cumulative effects.
R 8 Contact with combustible material may cause fire.
R 61 May cause harm to the unborn child.
R 62 Possible risk of impaired fertility.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 17 Keep away from combustible material.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 13453-62-8: No information available.

CAS# 13637-76-8: 2

Canada - DSL/NDSL

CAS# 13637-76-8 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of C, D1B, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 13453-62-8 (listed as Lead, inorganic compounds) is listed on the Canadian Ingredient Disclosure List.

CAS# 13637-76-8 (listed as Lead, inorganic compounds) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 10/14/1998

Revision #3 Date: 1/07/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.