



ALLOCATE™ ZN

Date: August 14, 2023

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product identifier

Trade name ALLOCATE™ ZN

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

Use(s): Agriculture, Turf

1.3 Details of the supplier of the safety data sheet

Company CHS Inc.
5500 Cenex Drive
Inver Grove Heights, MN 55077

Telephone number: (651) 355-6000

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300).

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Acute toxicity, oral, Category 4

Specific target organ toxicity, repeated exposure (kidneys), Category 2

Hazardous to the aquatic environment, acute hazard, Category 1

Hazardous to the aquatic environment, long term hazard, Category 1

H302: Harmful if swallowed

H373: Causes damage to the kidneys through prolonged or repeated exposure

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects

2.2 Label Elements

HCS 2012 (29 CFR 1910.1200)

Pictogram



Signal Word

Warning!

Hazard Statements:

H302

H373

H400

H410

Harmful if swallowed

Causes damage to the kidneys through prolonged or repeated exposure.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Prevention Statements

Prevention

P260

P264

P270

Do not breathe fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink, or smoke when using this product.



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P273 Avoid release to the environment.
Response
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
P330 Rinse mouth.
P391 Collect spillage.
Disposal
P501 Dispose of contents/container in accordance with local/national regulations.

2.3 Other Hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture

| Name | CAS Number | Wt % |
|--------------------------|------------|------|
| Zinc oxide | 1314-13-2 | 50.0 |
| Proprietary liquid blend | ***** | 50.0 |

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

4.1 Description of first-aid measures

General advice There are no predictable hazardous effects in the normal use of the substance but some instructions must be followed.

In case of inhalation If breathed, move person from danger area and provide for fresh air and seek medical

advice. If not breathing, give artificial respiration.
Wash with water.
In case of skin contact Rinse with copious quantities of clean water keeping the eyelids well open in order to assure an adequate rinsing and seek medical advice.
In case of eye contact Rinse out the mouth with copious quantity of water and seek medical advice. Never give anything by mouth to an unconscious person.
In case of ingestion

4.2 Most important symptoms and effects, both acute and delayed

Risk No remarkable particular symptoms and effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician No remarkable particular indication.

5. FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media Take into account the materials present in its vicinity. In the case of fire due to nearby materials, water, foam, dry chemicals, or carbon dioxide can be used.

Unsuitable extinguishing media None known.

5.2 Special hazards arising from the substance of mixture

Specific hazards during fire fighting In case of fire due to nearby materials, the product could emit pungent and stifling smokes.

5.3 Advice for firefighters

The product itself is not flammable. Coordinate extinguishing measures taking into account local and environmental circumstances. Avoid generating dust. Use respiratory protection equipment that supplies air from an independent source(auto-respirator) and suitable protective clothing.

5.4 Advice for firefighters



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Collect water used to extinguish fire and dispose according to local/regional/national/international regulations

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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|---|---|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For further information refer to section 8 "Exposure controls/personal protection." |
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6.2 Environmental precautions

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| Environmental precautions | Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. |
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6.3 Methods and materials for containment and cleaning up

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| Methods for containment | Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand, or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water. |
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Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

6.4 Reference to other sections

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|-----------------------------|--|
| Reference to other sections | 7. HANDLING AND STORAGE 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 13. DISPOSAL CONSIDERATIONS |
|-----------------------------|--|

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Obey reasonable safety precautions and practice according to good industrial personal hygiene and good occupational practices using suitable protective gloves, glasses, and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Store the product in clean and suitable sealed containers.

7.3 Specific end use(s)

No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.



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8.1 Control parameters

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| Occupational exposure limits | No exposure limits noted for ingredient(s). |
| Biological limit values | No biological exposure limits noted for the ingredient(s). |

8.2 Exposure controls

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| <i>Control measures</i> | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide easy access to water supply and eye wash facilities. |
| Engineering measures | |

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| <i>Personal protective equipment</i> | Respiratory protections should be worn when there is a potential to exceed the exposure limit requirements or guidelines. Chemical respirator with organic vapor cartridge and full face mask. |
| Respiratory protection | |

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| Hand/skin protection | Wear appropriate chemical resistant gloves. Wear suitable protective clothing. |
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| Eye protection | Chemical goggles are recommended. Wear face shield if there is risk of splashes. |
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| Hygiene measures | Observe good industrial hygiene practices. Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials: <ol style="list-style-type: none"> 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. |
|------------------|---|

- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

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| Protective measures | Ensure that eyewash stations and safety showers are close to the workstation location. |
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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

| | |
|-------------------------------------|--------------------------|
| Appearance | Physical state: Liquid |
| | Color: Blue |
| Odor | Characteristic |
| Odor Threshold | No data available |
| pH | No data available |
| Freezing point | No data available |
| Boiling point/boiling range | No data available |
| Flash point | > 94 deg C (> 200 deg F) |
| Evaporation rate (butylacetate = 1) | No data available |
| Flammability | No data available |
| Flammability/Explosive limit | No data available |
| Autoignition temperature | No data available |
| Vapor pressure | No data available |
| Vapor density | No data available |
| Density | 1.75 – 1.85 g/mL |
| Solubility | Not available |



10. STABILITY AND REACTIVITY

10.1 Reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage, and transport.

10.2 Chemical stability

Chemical stability Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

Polymerization No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid Contact with incompatible materials.

10.5 Incompatible materials

Reacts with: Strong oxidizing agents.

10.6 Hazardous decomposition products

On combustion or on thermal decomposition (pyrolysis), releases: During fire, gases hazardous to health may be formed.

11. TOXICOLOGICAL INFORMATION

No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

| Component | Result | Species | Dose | Exposure |
|------------|------------------------------------|---------|-------------|----------|
| Zinc oxide | LC50 Inhalation Dusts and mists | Rat | >5.7 mg/L | 4 hours |
| | LD50 Oral | | 15000 mg/kg | N/A |

12.2 Persistence and Degradability

Not rapidly degradable.

12.3 Bioaccumulative potential

No evidence to indicate significant bioaccumulative potential.

12.4 Mobility in soil

No evidence to indicate significant mobility in soil.

12.5 Results of PBT and vPvB assessment

ZnO is not PBT or vPvB

12.6 Other adverse effects

None known.

13. DISPOSAL CONSIDERATIONS

13.1 Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways, or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

13.2 Local disposal regulations

Dispose in accordance with all applicable regulations.

13.3 Hazardous waste code

The waste code should be assigned in discussion between the user, the producer, and the waste disposal company.

13.4 Waste from residues/unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

13.5 Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.



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14. TRANSPORT INFORMATION

14.1 US DOT

This material is not regulated for USA, Mexico, or Canada ground shipments.

14.2 IATA and IMDG

Regulated. UN3082, Environmentally Hazardous Substance, Liquid, n.o.s. (Zinc Oxide), 9, PG III, Marine Pollutant.

| | |
|---------------------------|-----------------------------------|
| Transport Hazard Class: | Class 9 (IATA/IMDG) |
| UN Identification Number: | UN3082 (IATA/IMDG) |
| Packaging Group: | PG III (IATA/IMDG) |
| Environmental Hazards: | Marine Pollutant (IATA/IMDG only) |
| Transport in Bulk: | Not regulated by DOT |

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

15. REGULATORY INFORMATION

15.1 Notification status

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|------------------------------|--|
| United States TSCA Inventory | YES (positive listing) On TSCA inventory. |
| Canadian DSL | YES (positive listing) On DSL. |

15.2 Federal Regulations

SARA 302 Extremely hazardous substance Not listed.

SARA Hazard Designation Sections 311/312 (40 CFR 370)

| | |
|-----------------------------------|----|
| Fire hazard | No |
| Reactivity Hazard | No |
| Sudden Release of Pressure Hazard | No |

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|-----------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |

16. OTHER INFORMATION

Further information

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|---------------------|----------------------|
| Date updated | 24mar21 |
| Further information | Updated formulation. |

Disclaimer:

The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in another manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.