

1. Identification

Product identifier Purolite® C100EFM
Other means of identification None.
Recommended use Ion Exchange, Absorbent and/or Catalyst
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier Purolite
150 Monument Road
Bala Cynwyd, PA 19004 USA
Telephone +1 610 668 9090
Fax +1 610 668 8139

Manufacturer Purolite S.R.L.
Str. Aleea Uzinei nr.11,
505700 Victoria
Judetul Brasov
Romania

Telephone +40 26 824 3001
Fax +40 26 824 3002

Manufacturer Purolite
150 Monument Road
Bala Cynwyd, PA 19004 USA
Telephone +1 610 668 9090
Fax +1 610 668 8139

Manufacturer Purolite (China) Co. Limited,
Qianlong Economic Development Zone,
Qianyuan Town, Deqing County,
Huzhou City, Zhejiang, China 313216

Telephone +86 572 842 2908
Fax +86 572 842 5345

Contact person SDS Coordinator
E-mail msds@purolite.com

1.4. Emergency telephone number +1 866 387 7344
+1 760 602 8703

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices. Use personal protective equipment as required.

Response Wash hands after handling. Get medical advice/attention if you feel unwell.

Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium polystyrene sulfonate	69011-22-9	40 - 65
Water	7732-18-5	35 - 60

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move into fresh air and keep at rest. Get medical attention if any discomfort continues.
Skin contact	Wash off immediately with soap and plenty of water. If irritation persists get medical attention.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. If eye irritation persists, get medical advice/attention.
Ingestion	Rinse mouth thoroughly. Never give liquid to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	Eye contact: Contact may cause irritation with redness, tearing, pain, and/or blurred vision.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective clothing.
Fire fighting equipment/instructions	In the event of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Wear self-contained breathing apparatus and protective clothing.
General fire hazards	This product is not flammable. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS. Avoid contact with skin and eyes.
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Methods and materials for containment and cleaning up	Avoid the generation of dusts during clean-up. The product is immiscible with water and will sediment in water systems. Large Spills: Dike the spilled material, where this is possible. Sweep or shovel up material and place in a clearly labeled container for waste. Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

Precautions for safe handling	Wear protective clothing as described in Section 8 of this safety data sheet. Use with adequate ventilation. Keep formation of airborne dusts to a minimum. Wash thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	
Appropriate engineering controls	Provide adequate ventilation. Provide eyewash station.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Protective gloves should be worn to prevent skin contact. SPECIFIC RECOMMENDATIONS. Breakthrough time: > 10 minutes. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	No personal respiratory protective equipment normally required.
Thermal hazards	None known.
General hygiene considerations	Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Beads.
Physical state	Solid.
Form	Solid. Beads.
Color	Gold. Amber. Light brown. Dark brown. Black. Green.
Odor	Odorless.
Odor threshold	Not available.
pH	Neutral.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 1.1 - 1.3

Solubility(ies)

Solubility (water) Insoluble.

Partition coefficient (n-octanol/water) No data available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 1.10 - 1.30

10. Stability and reactivity

Reactivity Chemical stability	The product is stable and non-reactive under normal conditions of use, storage and transport.
Possibility of hazardous reactions	Material is stable under normal conditions. No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Heat, sparks, flames, elevated temperatures.
Incompatible materials	Strong oxidizing agents. Nitric acid.
Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information**Information on likely routes of exposure**

Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard. Inhalation of dusts may cause respiratory irritation.

Skin contact May cause mild skin irritation.

Eye contact Dust may irritate the eyes. May cause eye irritation on direct contact.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity May cause discomfort if swallowed.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation May cause eye irritation on direct contact.

Respiratory or skin sensitization

Respiratory sensitization Not classified.

Skin sensitization Not classified.

Germ cell mutagenicity Not classified.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Chronic effects are not expected when this product is used as intended.
Further information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity	Based on available data, the classification criteria are not met for hazardous to the aquatic environment. The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. This solution may be subject to SARA 311/312 and CERCLA based on the threshold quantities of individual components.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
 Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 24-April-2015
Revision date 30-September-2016

Version #
HMIS® ratings

02
Health: 1
Flammability: 1
Physical hazard: 0

NFPA ratings



List of abbreviations

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
MARPOL: International Convention for the Prevention of Pollution from Ships.

Disclaimer

The information provided in this safety data sheet is based on current knowledge about the product and current legal requirements and standards. It relates specifically to health, safety and environmental requirements and standards, may not identify all hazards associated with the product or its uses or misuses, does not signify any warranty with regard to the properties of the product, and only applies when the product is used for the purposes indicated in section 1. This product is not sold as suitable for other purposes and such other usage may cause risks not mentioned in this safety data sheet.