

Archived: Monday, October 11, 2021 10:31:28 AM

From: [David W Sheaves](#)

Sent: Monday, October 11, 2021 9:49:25 AM

To: [Lester, Guy](#)

Cc: [Steve Maccani](#)

Subject: Update Temporary Pretreatment System Storm Water - BASF Corporation West Memphis

Importance: Normal

Attachments:

[Purofine_PFA694 SDS.pdf](#); [Q009616-M-400-D DRAFT.pdf](#);

Dear Mr. Lester,

BASF has developed a basic design for installation of an additional activated resin (SDS provided) train to support removal of PFAS compounds from the stormwater discharge associated with the West Memphis facility.

Attached is a block flow diagram depicting the update to the system. The update shown in red. While the drawing is preliminary, BASF does not anticipate any major changes with the basic flow of water through the system. The system will be operated at no more than 100 gpm, on a 24-hour basis. Once started up the site will collect samples as prescribed in the temporary permit granted by your office.

Our vendor has indicated a 4-week lead time can be met regarding delivery and installation of the additional equipment and resin. BASF will also be changing out the spent carbon that currently resides in the existing treatment train. The system will start with new carbon and the additional resin.

Should you have any questions please don't hesitate to call me via my mobile phone number listed below.

Sincerely

David SHEAVES

Expert, Environmental Protection

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We create chemistry

BASF Business Services GmbH, Registered Office: 67061 Ludwigshafen, Germany

Companies' Register: Amtsgericht Ludwigshafen, HRB 3541

Managing Directors:

Lars Rosendahl, Stefan Beck, Wiebe van der Horst

Chairman of the Supervisory Board: Christoph Wegner

1. Identification

Product identifier	Purofine® PFA694
Other means of identification	None.
Recommended use	Ion Exchange, Absorbent and/or Catalyst
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Supplier	Purolite 2201 Renaissance Boulevard Suite 400 King of Prussia, PA 19406
Telephone	+1 800.343.1500 +1 610.668.9090
Fax	+1 800.260.1065
Manufacturer	Purolite S.R.L. Str. Aleea Uzinei nr.11, 505700 Victoria Judetul Brasov Romania
Telephone	+40 268 206 300
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Manufacturer	Purolite 2201 Renaissance Boulevard Suite 400 King of Prussia, PA 19406
Telephone	+1 800.343.1500 +1 610.668.9090
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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.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Trade Secret, Proprietary	Trade Secret	20 - 60
Water	7732-18-5	40 - 80

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 to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	The 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. Keep people away from and upwind of spill/leak. 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 personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Dike the spilled material, where this is possible. Sweep up or vacuum up spillage and collect in suitable container for disposal. Following product recovery, flush area with water. Small Spills: 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.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. 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).
Appropriate engineering controls	Good general ventilation 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.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
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 suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	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	
Physical state	Solid.
Form	Beads.
Color	White. Yellow. Light amber. Cream.
Odor	Odorless.
Odor threshold	Not determined.
pH	Neutral.
Melting point/freezing point	Not determined.
Initial boiling point and boiling range	Not determined.
Flash point	Not applicable, material is a solid.
Evaporation rate	Not applicable, material is a solid.
Flammability (solid, gas)	Combustible.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable, material is a solid.
Explosive limit - upper (%)	Not applicable, material is a solid.
Vapor pressure	Not applicable, material is a solid.
Vapor density	Not applicable, material is a solid.
Relative density	1.04 - 1.12
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable, product is a mixture.
Auto-ignition temperature	Not applicable, material is a solid.
Decomposition temperature	Not determined.
Viscosity	Not applicable, material is a solid.

Other information

Density	Not determined.
Explosive properties	Not explosive.
Kinematic viscosity	Not applicable, material is a solid.
Oxidizing properties	Not oxidizing.
Particle size	100 - 2000 micron

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	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	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.
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Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
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IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
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Specific target organ toxicity - single exposure	Not classified.
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Specific target organ toxicity - repeated exposure	Not classified.
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Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
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Chronic effects	None known.
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Further information	No other specific acute or chronic health impact noted.
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12. Ecological information

Ecotoxicity	The product is 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 is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	The product is insoluble in water.
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	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose 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).
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.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.
SARA 304 Emergency release notification	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	Not listed.
Toxic Substances Control Act (TSCA)	All components of the mixture on the TSCA 8(b) inventory are designated "active".
Superfund Amendments and Reauthorization Act of 1986 (SARA)	
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****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.

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. For more information go to www.P65Warnings.ca.gov.

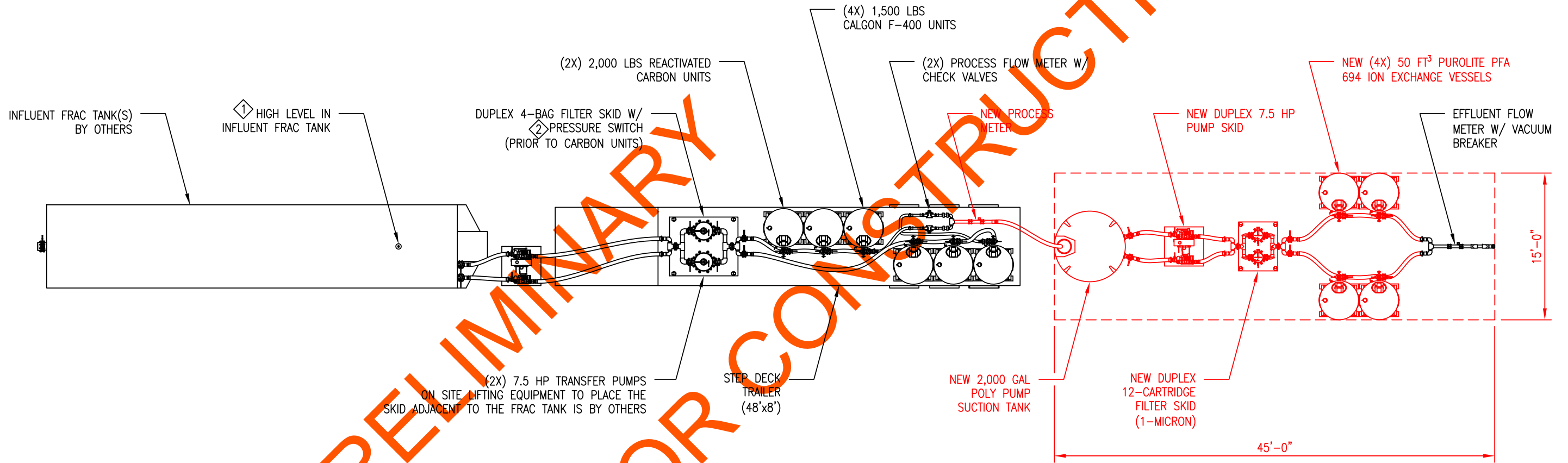
16. Other information, including date of preparation or last revision

Issue date	17-June-2021
Revision date	-
Version #	01
Further information	This mixture is exempted from Registration according to the provisions of Title II and VI and Article 2(9) of REACH.
HMIS® ratings	Health: 0 Flammability: 1 Physical hazard: 0
NFPA ratings	
List of abbreviations	DOT: Department of Transportation (49 CFR 172.101). IATA: International Air Transport Association. IMDG Code: International Maritime Dangerous Goods Code. MARPOL: International Convention for the Prevention of Pollution from Ships.
References	ECHA CHEM
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.

ALARM SCHEDULE

#	CONDITION	ACTION
①	HIGH LEVEL IN INFLUENT FRAC TANK	ACTIVATE STROBE LIGHT
②	HIGH PRESSURE ALARM (PRIOR TO CARBON VESSELS)	ACTIVATE STROBE LIGHT

TEMPORARY TREATMENT SYSTEM
OVERALL PLAN VIEW



NOTES:

- DESIGN FLOW RATE: 100 GPM
- SYSTEM FOOTPRINT APPROXIMATELY 15'x45' + (EXISTING EQUIPMENT)
- NOT ALL VALVES, CONNECTIONS, ETC. SHOWN FOR CLARITY
- ELECTRICAL POWER BY OTHERS
- NEW EQUIPMENT SHOWN IN RED

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SCALE: NTS



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REV.	DATE	BY	REMARKS	REV.	DATE	BY	REMARKS
D	09/30/21	RS	ADDED NEW EQUIPMENT				

CUSTOMER:	BASF
SITE:	WEST MEMPHIS, ARKANSAS

TITLE:	EQUIPMENT LAYOUT 100 GPM TEMPORARY TREATMENT SYSTEM
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APPROVALS	BY	DATE
	JMB	01/05/21
MECH.		
I&C		
PROCESS		

DWG SIZE: B	SHEET: 1 OF 1	DRAWING NO.: Q009616-M-400
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