

Modification Notice - Regulation 22

If the modification to the regulated activity has already occurred, a regulation 22 modification notice is not applicable.

Interest Holder	Central Petroleum	EMP Title	Mereenie Development Wells WM29 / WM30	Unique EMP ID No.	CTP7-5	Mod No.	3	Date	05/12/2024
Brief Description	<p>This Regulation 22 modification is seeking to update the drilling chemicals list contained within the EMP and the associated Spill Management Plan.</p> <p>The updated chemicals list provides a complete list of chemicals proposed to be used during the drilling campaign and includes any alternatives or substitutes which may be used while drilling.</p> <p>The chemicals will be stored in lined and bunded areas generally on the well sites however, where space does not allow, they will be stored in a bunded chemical storage area adjacent to the Mereenie stores facility.</p> <p>The outcome of this modification and attached risk assessment is that there is no effecting change in environmental risk due to the control measures in place to manage loss of containment.</p>								
Geospatial Files Included?	No								
Sump volume increase and relocation / extension of WM29 well site									
Does the proposed change result in a new, or increased, potential or actual environmental impact or risk?	If an INCREASE in an existing potential or actual environmental impact or risk, is the increase provided for in the approved EMP?	Does the proposed change require additional mitigation measures to ensure it is managed to ALARP and acceptable levels?	Has additional stakeholder engagement been conducted?	Does the proposed change require additional environmental performance standards or measurement criteria?	Does the proposed change affect compliance with Sacred Site Authority Certificates?	Does the proposed change affect any sub-plans to the EMP?	Will the environmental outcome continue to be achieved?		

<i>Attach supporting information to support all answers to the above questions</i>							
No. The additional chemicals are being included to provide flexibility in the chemicals used in case of short supply and the need for substitutes	N/A	No additional mitigation measures are considered necessary. The additional chemicals are being included to provide flexibility in the chemicals used in case of short supply and the need for substitutes	No. The updated chemicals list does not impact any stakeholders and adequate stakeholder engagement has been conducted previously.	No additional environmental performance standards and measurement criteria are required. A review of the existing standards and criteria in the EMP identified that all elements will be able to be met and the proposed works will not impact compliance.	No. All works are conducted on existing operational areas and aligned with existing approvals.	The spill management plan requires the chemicals list to be updated as per the updates outlined in this modification.	Yes (refer to Risk Assessment in Table 1).
Current EMP Text				Amended EMP Text			

Table 11: Drilling Fluid Chemicals

Function	Product name	Hazardous substance	Unit/kilogram (kg)	Estimated Quantity (kg)/well	Storage location
Sealant	Mica (F)	No	22.7	872	Well site
Biocide	Nuosept 78	Yes	25	25	Well site
Calcium remover	Sodium bicarbonate	No	25	500	Well site
Complexing agent	GELPLEX (bentonite)	No	22.7	28,330	Well site
Corrosion inhibitor	SAFE SCAV NA	Yes	25	25	Well site
Corrosion inhibitor	SAFE-COR	Yes	189	189	Well site
Defoaming agent	Defoam A25	Yes	20	640	Well site
Filtration control agent	Polypac UL	Yes	25	1000	Well site
Foaming agent	Platinum foam plus	Yes	18.9	1,363	Well site
Lost circulation and weighting materials	Barite	No	1500	220,500	Well site
Lost circulation and weighting materials	Form-A-Blok	No	9	1,746	Well site
Lost circulation and	Kwik seal (M)	No	22.7	872	Well site

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Biocide	Nuosept 78	Yes	25	25	Well site
Calcium remover	Sodium bicarbonate	No	25	500	Well site
Complexing agent	GELPLEX (bentonite)	No	22.7	28,330	Well site
Corrosion inhibitor	SAFE SCAV NA	Yes	25	25	Well site
Corrosion inhibitor	SAFE-COR	Yes	189	189	Well site
Defoaming agent	Defoam A25	Yes	20	640	Well site
Filtration control agent	Polypac UL	Yes	25	1000	Well site
Foaming agent	Platinum foam plus	Yes	18.9	1,363	Well site
Lost circulation and weighting materials	Barite	No	1500	220,500	Well site
Lost circulation and weighting materials	Form-A-Blok	No	9	1,746	Well site
Lost circulation and	Kwik seal (M)	No	22.7	872	Well site

weighting materials						weighting materials					
Lost circulation and weighting materials	Losseal max	No	22.7	454	Well site	Lost circulation and weighting materials	Losseal max	No	22.7	454	Well site
Lost circulation and weighting materials	M-I-X II coarse	No	22.7	872	Well site	Lost circulation and weighting materials	M-I-X II coarse	No	22.7	872	Well site
Lost circulation and weighting materials	Nut plug (F)	No	22.7	872	Well site	Lost circulation and weighting materials	Nut plug (F)	No	22.7	872	Well site
Lost circulation and weighting materials	Nut plug (M)	No	22.7	872	Well site	Lost circulation and weighting materials	Nut plug (M)	No	22.7	872	Well site
pH control additive	Caustic soda	Yes	25	525	Well site	pH control additive	Caustic soda	Yes	25	525	Well site
pH control additive	Citric acid	Yes	25	500	Well site	pH control additive	Citric acid	Yes	25	500	Well site
Primary fluid-loss control additive	FLO-PLEX	No	25	3,675	Well site	Primary fluid-loss control additive	FLO-PLEX	No	25	3,675	Well site
Primary fluid-loss control additive	Safe-carb 250	No	22.7	1,317	Well site	Primary fluid-loss control additive	Safe-carb 250	No	22.7	1,317	Well site
Primary fluid-loss	Safe-carb 40	No	22.7	1,308	Well site	Primary fluid-loss	Safe-carb 40	No	22.7	1,308	Well site

control additive					
Secondary pH control & Ca++ removal agent	Soda ash	No	25	700	Well site
Stabiliser	Potassium chloride	No	25	875	Well site
Thinner and dispersant	SAPP (Sodium Acid Pyrophosphate)	Yes	25	500	Well site
Viscosifier	DRILPLEX	Yes	11.3	2,825	Well site

control additive					
Secondary pH control & Ca++ removal agent	Soda ash	No	25	700	Well site
Stabiliser	Potassium chloride	No	25	875	Well site
Thinner and dispersant	SAPP (Sodium Acid Pyrophosphate)	Yes	25	500	Well site
Viscosifier	DRILPLEX	Yes	11.3	2,825	Well site
FLAC	UNIFLAC	No	100 (gallons)	795 (gallons)	Well site
Silicate Extender	Low-Temperature Liquid Extender D155	No	265 (gallons)	530 (gallons)	Well site
Viscosifier	Viscosifier D208A	No	10 kg	45 kg	Well site
Lost circulation and weighting materials	Barite D031	No	1500 kg	45000 kg	Well site
Anti-foamer	Antifoam D047	No	5 gals	320 gal	Well site
Viscosifier	MUDPUSH II D182	No	12 kg	1360 kg	Well site
Lost circulation material	MUDPUSH Seal D592	No	25 kg	1000 kg	Well site

	Cement	HTB Cement + Silica Blend D956 / D907	Yes	In bulk	350000 kg	Well site
	Accelerator	Liquid Accelerator D077	Yes	53 gal	795 gal	Well site
	Gell additive	Thixotropic (RFC) Agent D111	Yes	50 gal	400 gal	Well site
	Extender	Silicate Extender D075	No	265 gal	795 gal	Well site
	High temperature retarder	HT Retarder D110	No	5 gal	320 gal	Well site
	Low temperature retarder	LT Retarder D081	No	5 gal	480 gal	Well site
	Extender	Bentonite D020	No	25 kg	2200 kg	Well site
	Extender	Extender B038	No	265 gal	530 gal	Well site
	Gas control additive	GASBLOK D500	Yes	271 gal	1355 gal	Well site
	Dispersant	LT Dispersant D230	No	55 gal	100 gal	Well site
	Expanding agent	Expanding Agent D174	Yes	25 kg	2400 kg	Well site
	viscosifier	MUDPUSH Seal D590	No	25 kg	1000 kg	Well site
	Fluid Loss control additive	FLCA D167A	No	350 kg	1750 kg	Well site
	dispersant	Cement Liquid Dispersant D80	Yes	5 gal	100 gal	Well site
	dispersant	Dispersant D145A	No	254 gal	254 gal	Well site

	Loss circulation material	LCM (Losseal Max HT PART A)	No	25 kg	2300 kg	Well site
	Loss circulation material	LCM (Losseal Max HT PART B)	No	66 kg	200 kg	Well site
	Loss circulation material	CemNET Fiber D095	No	25 kg	150 kg	Well site
	Fluid loss control additive	FLAC D168A		265 gal	530 gal	Well site
	Viscosifier	DUO-VIS	No	1000	25	Well site
	Filtration Control Agent	POLYPAC UL	No	1000	25	Well site
	Bridging agent	SAFE-CARB 1400	No	3400	25	Well site

Table 37: Spill Management Plan

Function	Product name	Hazardous substance	Unit/kilogram (kg)	Estimated Quantity (kg)/well	Storage location
Sealant	Mica (F)	No	22.7	872	Well site
Biocide	Nuosept 78	Yes	25	25	Well site
Calcium remover	Sodium bicarbonate	No	25	500	Well site
Complexing agent	GELPLEX (bentonite)	No	22.7	28,330	Well site
Corrosion inhibitor	SAFE SCAV NA	Yes	25	25	Well site
Corrosion inhibitor	SAFE-COR	Yes	189	189	Well site
Defoaming agent	Defoam A25	Yes	20	640	Well site
Filtration control agent	Polypac UL	Yes	25	1000	Well site
Foaming agent	Platinum foam plus	Yes	18.9	1,363	Well site
Lost circulation and weighting materials	Barite	No	1500	220,500	Well site
Lost circulation and weighting materials	Form-A-Blok	No	9	1,746	Well site
Lost circulation and weighting materials	Kwik seal (M)	No	22.7	872	Well site
Lost circulation and	Losseal max	No	22.7	454	Well site

Table 37: Spill Management Plan

Function	Product name	Hazardous substance	Unit/kilogram (kg)	Estimated Quantity (kg)/well	Storage location
Sealant	Mica (F)	No	22.7	872	Well site
Biocide	Nuosept 78	Yes	25	25	Well site
Calcium remover	Sodium bicarbonate	No	25	500	Well site
Complexing agent	GELPLEX (bentonite)	No	22.7	28,330	Well site
Corrosion inhibitor	SAFE SCAV NA	Yes	25	25	Well site
Corrosion inhibitor	SAFE-COR	Yes	189	189	Well site
Defoaming agent	Defoam A25	Yes	20	640	Well site
Filtration control agent	Polypac UL	Yes	25	1000	Well site
Foaming agent	Platinum foam plus	Yes	18.9	1,363	Well site
Lost circulation and weighting materials	Barite	No	1500	220,500	Well site
Lost circulation and weighting materials	Form-A-Blok	No	9	1,746	Well site
Lost circulation and	Kwik seal (M)	No	22.7	872	Well site

weighting materials						weighting materials					
Lost circulation and weighting materials	M-I-X II coarse	No	22.7	872	Well site	Lost circulation and weighting materials	Losseal max	No	22.7	454	Well site
Lost circulation and weighting materials	Nut plug (F)	No	22.7	872	Well site	Lost circulation and weighting materials	M-I-X II coarse	No	22.7	872	Well site
Lost circulation and weighting materials	Nut plug (M)	No	22.7	872	Well site	Lost circulation and weighting materials	Nut plug (F)	No	22.7	872	Well site
pH control additive	Caustic soda	Yes	25	525	Well site	Lost circulation and weighting materials	Nut plug (M)	No	22.7	872	Well site
pH control additive	Citric acid	Yes	25	500	Well site	pH control additive	Caustic soda	Yes	25	525	Well site
Primary fluid-loss control additive	FLO-PLEX	No	25	3,675	Well site	pH control additive	Citric acid	Yes	25	500	Well site
Primary fluid-loss control additive	Safe-carb 250	No	22.7	1,317	Well site	Primary fluid-loss control additive	FLO-PLEX	No	25	3,675	Well site
Primary fluid-loss control additive	Safe-carb 40	No	22.7	1,308	Well site	Primary fluid-loss control additive	Safe-carb 250	No	22.7	1,317	Well site
Secondary pH control & Ca++ removal agent	Soda ash	No	25	700	Well site	Primary fluid-loss	Safe-carb 40	No	22.7	1,308	Well site
Stabiliser	Potassium chloride	No	25	875	Well site						

Thinner and dispersant	SAPP (Sodium Acid Pyrophosphate)	Yes	25	500	Well site	control additive					
Viscosifier	DRILPLEX	Yes	11.3	2,825	Well site	Secondary pH control & Ca++ removal agent	Soda ash	No	25	700	Well site
						Stabiliser	Potassium chloride	No	25	875	Well site
						Thinner and dispersant	SAPP (Sodium Acid Pyrophosphate)	Yes	25	500	Well site
						Viscosifier	DRILPLEX	Yes	11.3	2,825	Well site
						FLAC	UNIFLAC	No	100 (gallons)	795 (gallons)	Well site
						Silicate Extender	Low-Temperature Liquid Extender D155	No	265 (gallons)	530 (gallons)	Well site
						Viscosifier	Viscosifier D208A	No	10 kg	45 kg	Well site
						Lost circulation and weighting materials	Barite D031	No	1500 kg	45000 kg	Well site
						Anti-foamer	Antifoam D047	No	5 gals	320 gal	Well site
						Viscosifier	MUDPUSH II D182	No	12 kg	1360 kg	Well site
						Lost circulation material	MUDPUSH Seal D592	No	25 kg	1000 kg	Well site

	Cement	HTB Cement + Silica Blend D956 / D907	Yes	In bulk	350000 kg	Well site
	Accelerator	Liquid Accelerator D077	Yes	53 gal	795 gal	Well site
	Gell additive	Thixotropic (RFC) Agent D111	Yes	50 gal	400 gal	Well site
	Extender	Silicate Extender D075	No	265 gal	795 gal	Well site
	High temperature retarder	HT Retarder D110	No	5 gal	320 gal	Well site
	Low temperature retarder	LT Retarder D081	No	5 gal	480 gal	Well site
	Extender	Bentonite D020	No	25 kg	2200 kg	Well site
	Extender	Extender B038	No	265 gal	530 gal	Well site
	Gas control additive	GASBLOK D500	Yes	271 gal	1355 gal	Well site
	Dispersant	LT Dispersant D230	No	55 gal	100 gal	Well site
	Expanding agent	Expanding Agent D174	Yes	25 kg	2400 kg	Well site
	viscosifier	MUDPUSH Seal D590	No	25 kg	1000 kg	Well site
	Fluid Loss control additive	FLCA D167A	No	350 kg	1750 kg	Well site
	dispersant	Cement Liquid Dispersant D80	Yes	5 gal	100 gal	Well site
	dispersant	Dispersant D145A	No	254 gal	254 gal	Well site

	Loss circulation material	LCM (Losseal Max HT PART A)	No	25 kg	2300 kg	Well site
	Loss circulation material	LCM (Losseal Max HT PART B)	No	66 kg	200 kg	Well site
	Loss circulation material	CemNET Fiber D095	No	25 kg	150 kg	Well site
	Fluid loss control additive	FLAC D168A		265 gal	530 gal	Well site
	Viscosifier	DUO-VIS	No	1000	25	Well site
	Filtration Control Agent	POLYPAC UL	No	1000	25	Well site
	Bridging agent	SAFE-CARB 1400	No	3400	25	Well site

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Table 1: WM29 Risk Assessment

Modification	Currently approved option	Proposed option	Differences / Comments
Alternative chemicals	The list of chemicals included in the original EMP were provided as an expected inventory at the time of submission.	The additional chemicals listed have been provided (in many cases) as alternative product with the same function as those listed in the original EMP. The updated list provided will ensure DLPE has a complete list of chemicals that will be utilised during the WM29 and WM30 drilling campaign.	There is no effective change in the risk associated with the updated chemicals list as they will be stored in similar quantities to the original list and within lined and bunded areas to ensure any leaks are captured within secondary containment. Surplus chemicals will be stored off the well site at the Mereenie stores facility in a bunded chemical storage area.

Submit this notice and supporting information to Onshoregas.depws@nt.gov.au

Function	Product name	CAS Number	Hazardous substance	Unit/kilogram (kg)	Composition / Concentration	Estimated Quantity (kg) / well	Storage location	Associated risk
Sealant	Mica (F)	12001-26-2	No	22.7	100% mica	872	Well site	Low risk; inhalation of dust can cause respiratory irritation.
Biocide	Nuosept 78	2682-20-4	Yes	25	~20% isothiazolinone derivatives	25	Well site	High risk; toxic if ingested or in contact with skin.
Calcium remover	Sodium bicarbonate	144-55-8	No	25	99% sodium bicarbonate	500	Well site	Low risk; dust inhalation may cause minor irritation.
Complexing agent	GELPLEX (bentonite)	1302-78-9	No	22.7		28,330	Well site	Low risk; dust may be irritating to eyes, skin and respiratory system
Corrosion inhibitor	SAFE SCAV NA	13768-41-1	Yes	25	10-15% sodium nitrite	25	Well site	High risk; corrosive and may cause skin and eye irritation.
Corrosion inhibitor	SAFE-COR	68955-53-3	Yes	189	Proprietary (amine-based)	189	Well site	High risk; corrosive and toxic on contact.
Defoaming agent	Defoam A25	9003-11-6	Yes	20	~30% polyether-modified polysiloxane	640	Well site	Moderate risk; harmful if inhaled or ingested.
Filtration control agent	Polypac UL	9004-32-4	Yes	25	100% carboxymethylcellulose	1000	Well site	Moderate risk; dust may cause respiratory irritation.
Foaming agent	Platinum foam plus	68585-34-2	Yes	18.9	~30% sodium lauryl ether sulfate	1,363	Well site	Moderate risk; irritant to skin, eyes, and respiratory system.
Lost circulation and weighting materials	Barite	7727-43-7	No	1500	100% barium sulfate	220,500	Well site	Low risk; heavy exposure to dust may irritate respiratory system.
Lost circulation and weighting materials	Form-A-Blok	9004-34-6	No	9	100% cellulose	1,746	Well site	Low risk; avoid inhalation of fine dust.
Lost circulation and weighting materials	Kwik seal (M)	9004-34-6	No	22.7	100% cellulose	872	Well site	Low risk; avoid inhalation of fine particles.
Lost circulation and weighting materials	Losseal max	9004-34-6	No	22.7	Proprietary fibre blend	454	Well site	Low risk; inhalation of fine particles may cause minor irritation.
Lost circulation and	M-I-X II coarse	9004-34-6	No	22.7	Proprietary fibre blend	872	Well site	Low risk; avoid creating dust clouds.

Function	Product name	CAS Number	Hazardous substance	Unit/kilogram (kg)	Composition / Concentration	Estimated Quantity (kg) / well	Storage location	Associated risk
weighting materials								
Lost circulation and weighting materials	Nut plug (F)	9004-34-6	No	22.7	Ground walnut shell	872	Well site	Low risk; minimal hazards; avoid inhalation.
Lost circulation and weighting materials	Nut plug (M)	9004-34-6	No	22.7	Ground walnut shell	872	Well site	Low risk; avoid inhalation of fine particles.
pH control additive	Caustic soda	1310-73-2	Yes	25	98-100% sodium hydroxide	525	Well site	High risk; corrosive and can cause severe burns.
pH control additive	Citric acid	77-92-9	Yes	25	99-100% citric acid	500	Well site	Moderate risk; irritant to skin and eyes.
Primary fluid-loss control additive	FLO-PLEX	9004-32-4	No	25	100% carboxymethylcellulose	3,675	Well site	Low risk; inhalation of fine particles can cause respiratory irritation.
Primary fluid-loss control additive	Safe-carb 250	1317-65-3	No	22.7	100% calcium carbonate	1,317	Well site	Low risk; inert material.
Primary fluid-loss control additive	Safe-carb 40	1317-65-3	No	22.7	100% calcium carbonate	1,308	Well site	Low risk; inert material.
Secondary pH control & Ca++ removal agent	Soda ash	497-19-8	No	25	99% sodium carbonate	700	Well site	Moderate risk; irritant to eyes and respiratory system.
Stabiliser	Potassium chloride	7447-40-7	No	25	98-100% potassium chloride	875	Well site	Low risk; minimal hazards.
Thinner and dispersant	SAPP (Sodium Acid Pyrophosphate)	7758-16-9	Yes	25	98-100% sodium pyrophosphate	500	Well site	Moderate risk; eye and skin irritant.
Viscosifier	DRILPLEX	Proprietary	Yes	11.3	Proprietary blend	2,825	Well site	Moderate risk; inhalation of dust may cause irritation.
FLAC	UNIFLAC	Proprietary	No	100 (gallons)	Proprietary	795 (gallons)	Well site	Low risk; inert liquid material.
Silicate Extender	Low-Temperature Liquid Extender D155	Proprietary	No	265 (gallons)	Proprietary	530 (gallons)	Well site	Low risk; minimal hazards.
Viscosifier	Viscosifier D208A	Proprietary	No	10 kg	Proprietary	45 kg	Well site	Low risk; inert material.
Lost circulation and	Barite D031	7727-43-7	No	1500 kg	100% barium sulfate	45000 kg	Well site	Low risk; heavy dust exposure may cause irritation.

Function	Product name	CAS Number	Hazardous substance	Unit/kilogram (kg)	Composition / Concentration	Estimated Quantity (kg) / well	Storage location	Associated risk
weighting materials								
Anti-foamer	Antifoam D047	9003-11-6	No	5 gals	~30% polysiloxane	320 gal	Well site	Moderate risk; harmful if ingested.
Viscosifier	MUDPUSH II D182	Proprietary	No	12 kg	Proprietary	1360 kg	Well site	Low risk; inert material.
Lost circulation material	MUDPUSH Seal D592	Proprietary	No	25 kg	Proprietary	1000 kg	Well site	Low risk; avoid inhaling dust.
Cement	HTB Cement + Silica Blend D956 / D907	65997-15-1	Yes	In bulk	98-100% cementitious blend	350000 kg	Well site	High risk; inhalation of silica dust can cause respiratory issues.
Accelerator	Liquid Accelerator D077	Proprietary	Yes	53 gal	Proprietary	795 gal	Well site	Moderate risk; harmful on prolonged contact.
Gell additive	Thixotropic (RFC) Agent D111	Proprietary	Yes	50 gal	Proprietary	400 gal	Well site	Moderate risk; irritant to skin and eyes.
Extender	Silicate Extender D075	Proprietary	No	265 gal	Proprietary	795 gal	Well site	Low risk; minimal hazards.
High temperature retarder	HT Retarder D110	Proprietary	No	5 gal	Proprietary	320 gal	Well site	Low risk; inert material.
Low temperature retarder	LT Retarder D081	Proprietary	No	5 gal	Proprietary	480 gal	Well site	Low risk; minimal hazards.
Extender	Bentonite D020	1302-78-9	No	25 kg	100% bentonite	2200 kg	Well site	Low risk; dust inhalation may cause irritation.
Extender	Extender B038	Proprietary	No	265 gal	Proprietary	530 gal	Well site	Low risk; inert material.
Gas control additive	GASBLOK D500	Proprietary	Yes	271 gal	Proprietary	1355 gal	Well site	Moderate risk; inhalation of vapours may cause irritation.
Dispersant	LT Dispersant D230	Proprietary	No	55 gal	Proprietary	100 gal	Well site	Low risk; inert material.
Expanding agent	Expanding Agent D174	Proprietary	Yes	25 kg	Proprietary	2400 kg	Well site	Moderate risk; irritant to skin and eyes.
viscosifier	MUDPUSH Seal D590	Proprietary	No	25 kg	Proprietary	1000 kg	Well site	Low risk; inert material.
Fluid Loss control additive	FLCA D167A	Proprietary	No	350 kg	Proprietary	1750 kg	Well site	Low risk; inert material.
dispersant	Cement Liquid Dispersant D80	Proprietary	Yes	5 gal	Proprietary	100 gal	Well site	Moderate risk; irritant to eyes and skin.
dispersant	Dispersant D145A	Proprietary	No	254 gal	Proprietary	254 gal	Well site	Low risk; inert material.
Loss circulation material	LCM (Losseal Max HT PART A)	Proprietary	No	25 kg	Proprietary	2300 kg	Well site	Low risk; inert material.

Function	Product name	CAS Number	Hazardous substance	Unit/kilogram (kg)	Composition / Concentration	Estimated Quantity (kg) / well	Storage location	Associated risk
Loss circulation material	LCM (Losseal Max HT PART B)	Proprietary	No	66 kg	Proprietary	200 kg	Well site	Low risk; inert material.
Loss circulation material	CemNET Fiber D095	Proprietary	No	25 kg	Proprietary	150 kg	Well site	Low risk; avoid inhalation of fine fibres.
Fluid loss control additive	FLAC D168A	Proprietary		265 gal	Proprietary	530 gal	Well site	Low risk; minimal hazards.
Viscosifier	DUO-VIS	Proprietary	No	1000	Proprietary	25	Well site	Low risk; minimal hazards.
Filtration Control Agent	POLYPAC UL	9004-32-4	No	1000	100% carboxymethylcellulose	25	Well site	Low risk; dust may cause respiratory irritation.
Bridging agent	SAFE-CARB 1400	1317-65-3	No	3400	100% calcium carbonate	25	Well site	Low risk; inert material.

When mixing drilling fluid additives and other chemical additives, wear the appropriate personal protective equipment (PPE) to reduce the risk of exposure:

Respiratory protection: An approved dust mask or respirator with a dust cartridge

Hand protection: Rubber or plastic gloves

Eye protection: Safety glasses or goggles or full face mask (corrosive products)

Skin protection: Long sleeves, long trousers/pants, rubber apron (corrosive products)