HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

EDC 99-DW SYSTEM WITH BAROID®

Revision Date: 14-Dec-2015 **Revision Number: 9**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name EDC 99-DW SYSTEM WITH BAROID®

Internal ID Code HM005329

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

Recommended Use Mud System

1.3. Details of the supplier of the safety data sheet

Halliburton Manufacturing Services, Ltd. Halliburton House, Howemoss Crescent

Kirkhill Industrial Estate

Dvce

Aberdeen, AB21 0GN United Kingdom

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §	45 - (EC)1272/2008
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Aspiration Category	Category 1 - H304
Skin Corrosion / irritation	Category 2 - H315
Skin Sensitization	Category 1 - H317
Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Chronic Aquatic Toxicity	Chronic 3 - H412

2.2. Label Elements

Hazard Pictograms



Signal Word **Danger**

Hazard Statements

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H335 - May cause respiratory irritation

H350 - May cause cancer

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P308 + P313 - IF exposed or concerned: Get medical advice/attention

Contains

Substances	CAS Number
Petroleum distillates, hydrotreated middle	64742-46-7
Diethylene glycol monobutyl ether	112-34-5
Fatty acid, tall-oil, reaction product with diethylenetriamine,	68990-47-6
maleic anhydride, tetraethylenepentamine, and	
triethylenetetramine	
Hydrotreated light petroleum distillate	64742-47-8
Calcium chloride, dihydrate	10035-04-8
Crystalline silica, quartz	14808-60-7

2.3. Other Hazards

This mixture contains substances considered to be persistent, bioaccumulating and toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on Ingredients

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3.2. Mixtures Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Petroleum distillates, hydrotreated middle	265-148-2	64742-46-7	30 - 60%	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Carc. 1A (H350) STOT SE 3 (H335) Asp. Tox. 1 (H304) Aquatic Chronic 3 (H412)	01-2119826592-36
Diethylene glycol monobutyl ether	203-961-6	112-34-5	< 0.1%	Eye Irrit. 2 (H319)	01-2119475104-44
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	273-601-0	68990-47-6	1 - 5%	Skin Sens. 1 (H317)	01-2119496070-42
Hydrotreated light petroleum distillate	265-149-8	64742-47-8	1 - 5%	Asp. Tox. 1 (H304) STOT SE 3 (H336)	01-2119484819-18
Calcium chloride, dihydrate	233-140-8	10035-04-8	5 - 10%	Eye Irrit. 2A (H319)	01-2119494219-28

Crystalline silica, quartz	238-878-4	14808-60-7	1 - 5%	Carc. 2 (H351)	No data available
				STOT RE 1 (H372)	

For the full text of the H-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory

irritation develops or if breathing becomes difficult.

Eyes In case of contact, immediately flush eyes with plenty of water for at least 15

minutes and get medical attention if irritation persists.

Skin Wash with soap and water. Get medical attention if irritation persists.

Ingestion Get medical attention! If vomiting occurs, keep head lower than hips to prevent

aspiration. Rinse mouth. Never give anything by mouth to an unconscious

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person.

4.2. Most Important symptoms and effects, both acute and delayed

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. Causes skin irritation. May cause allergic skin reaction. Carcinogen. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease. May cause headache, dizziness, and other central nervous system effects.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting Measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards

Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

Avoid breathing vapors. Avoid breathing mist. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet. Avoid contact with eyes, skin, or clothing.

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Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

7.3. Specific End Use(s)

Exposure Scenario No information available Other Guidelines No information available

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU UK		Netherlands	France
Petroleum distillates, hydrotreated middle	64742-46-7	Not applicable	Not applicable	Not applicable	Not applicable
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m³ STEL: 15 ppm STEL: 101.2 mg/m³	TWA: 10 ppm TWA: 67.5 mg/m³ STEL: 15 ppm STEL: 101.2 mg/m³	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m³ STEL: 15 ppm STEL: 101.2 mg/m³
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Calcium chloride, dihydrate	10035-04-8	Not applicable	10 mg/m ³	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 0.1 mg/m ³	TWA: 0.075 mg/m ³	TWA: 0.1 mg/m ³

Substances	CAS Number	Germany	Spain	Portugal	Finland
Petroleum distillates, hydrotreated middle	64742-46-7	Not applicable	Not applicable Not applicable		Not applicable
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67 mg/m³	TWA: 10 ppm TWA: 67.5 mg/m³ 15 ppm STEL [VLA-EC]; 101.2 mg/m³ STEL [VLA-EC]	TWA: 10 ppm TWA: 67.5 mg/m³ STEL: 15 ppm STEL: 101.2 mg/m³	TWA: 10 ppm TWA: 68 mg/m³
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	TWA: 20 ppm TWA: 140 mg/m ³	Not applicable	Not applicable	Not applicable
Calcium chloride, dihydrate	10035-04-8	Not applicable	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 0.1 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.05 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Petroleum distillates, hydrotreated middle	64742-46-7	Not applicable	Not applicable	Not applicable	Not applicable
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 67.5 mg/m³ STEL" 15 ppm STEL" 101.2 mg/m³ TWA 15 ppm STEL; 101.2 mg/m³ STEL		TWA: 10 ppm TWA: 67 mg/m³ STEL: 15 ppm STEL: 101 mg/m³	TWA: 10 ppm TWA: 68 mg/m³ STEL: 20 ppm STEL: 102 mg/m³
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Calcium chloride, dihydrate	10035-04-8	Not applicable	Not applicable	Not applicable	Not applicable

Crystalline silica, quartz	14808-60-7	TWA: 0.15 mg/m ³	0.1 mg/m ³ TWA	TWA: 0.15 mg/m ³	TWA: 0.3 mg/m ³
			(respirable dust)		TWA: 0.1 mg/m ³
			0.3 mg/m ³ STEL		STEL: 0.9 mg/m ³
			(calculated, respirable		STEL: 0.3 mg/m ³
			dust)		

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Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Petroleum distillates, hydrotreated middle	64742-46-7	Not applicable	Not applicable	Not applicable	Not applicable
Diethylene glycol monobutyl ether	112-34-5	, , , , , , , , , , , , , , , , , , ,		TWA: 67.5 mg/m ³ STEL: 101.2 mg/m ³	TWA: 100 mg/m ³
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Calcium chloride, dihydrate	10035-04-8	Not applicable	Not applicable	Not applicable	TWA: 5 mg/m ³
Crystalline silica, quartz	14808-60-7	Not applicable	TWA: 2 mg/m ³ TWA: 0.3 mg/m ³ TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Petroleum distillates, hydrotreated middle	64742-46-7	Not applicable	Not applicable	Not applicable	Not applicable
Diethylene glycol monobutyl ether	112-34-5	TWA: 10 ppm TWA: 68 mg/m³	TWA: 150 mg/m ³ STEL: 250 mg/m ³	TWA: 10 ppm TWA: 67.5 mg/m³ STEL: 15 ppm STEL: 101.2 mg/m³	TWA: 10 ppm TWA: 67.5 mg/m³ STEL: 15 ppm STEL: 101.2 mg/m³
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable	Not applicable	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable	Not applicable	Not applicable
Calcium chloride, dihydrate	10035-04-8	Not applicable	Not applicable	Not applicable	Not applicable
Crystalline silica, quartz	14808-60-7	TWA: 0.3 mg/m³ TWA: 0.1 mg/m³ TWA: 0.1 mg/m³		TWA: 0.1 mg/m ³	Not applicable

Derived No Effect Level (DNEL) Worker_

No information available.

<u>vvoi kei</u>									
Substances	exposure - systemic effects, Inhalation	exposure -	exposure -	exposure -	exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Diethylene glycol monobutyl ether	67.5 mg/m ³	Not available	67.5 mg/m ³	101.2 mg/m ³	20 mg/kg bw/day	Not available	Not available	Not available	Not available
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepenta mine, and triethylenetetramin e	14693 µg/m³	29386 μg/m³	14693 μg/m³	14693 μg/m³		33332 µg/kg bw/day	1388 µg/cm²	1388 µg/cm²	Not available
Calcium chloride, dihydrate	Not available	Not available	5 mg/m³	10 mg/m ³	Not available	Not available	Not available	Not available	Not available

General Population

Substances	Long-term	Acute /	Hazards								
	exposure -	short term	for the								
	systemic	exposure -	local	exposure -	systemic	exposure -	local	exposure -	systemic	exposure -	eyes -
	effects,	systemic	effects,	local	effects,	systemic	effects,	local	effects,	local	local

available available

		effects, Inhalation	Inhalation	effects, Inhalation	Dermal	effects, Dermal	Dermal	effects, Dermal	Oral	effects, Oral	effects
Diethylene glycol monobutyl ether		Not available	34 mg/m ³	50.6 mg/m³	10 mg/kg bw/day	Not available	Not available	Not available	_	Not available	Not available
Fatty acid, tall-oil, reaction product with diethylenetriamin e, maleic anhydride, tetraethylenepent amine, and triethylenetetramine	μg/m³	7246 µg/m³	3623 µg/m³	3623 µg/m³	8333 μg/kg bw/day	16666 µg/kg bw/day	694 µg/cm²	694 µg/cm²		16666 µg/kg bw/day	Not available
Calcium chloride,	Not	Not	2.5 mg/m ³	5 mg/m ³	Not	Not	Not	Not	Not	Not	Not

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available available available available available available available

Predicted No Eff	Predicted No Effect Concentration (PNEC)					No information available.			
Substances	Freshwater	Marine water				Sediment (marine water)	Air	Soil	Secondary poisoning
Diethylene glycol monobutyl ether	1.0 mg/L	0.1 mg/L	3.9 mg/L	200 mg/L	4.0 mg/kg	0.4 mg/kg	Not available		56 mg/kg food
,,,,	mg/L	0.000217 mg/L	0.0217 mg/L	1 mg/L		18 mg/kg sediment dw	Not available		33.34 mg/kg food

8.2. Exposure controls

dihydrate

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without

good cross ventilation.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection Wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, AS/NZS

1715:2009, or equivalent respirator when product vapor or mist is present.

Hand Protection Impervious rubber gloves.

Skin Protection Wear clothing appropriate for the work environment. Dusty clothing should be laundered

before reuse. Use precautionary measures to avoid creating dust when removing or

laundering clothing.

Eye ProtectionChemical goggles; also wear a face shield if splashing hazard exists. **Other Precautions**Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid Color: Brown

Odor: Mild hydrocarbon Odor Threshold: No information available

<u>Property</u> <u>Values</u>

Remarks/ - Method

pH: No data available
Freezing Point/Range No data available
Melting Point/Range No data available
Boiling Point/Range No data available
Flash Point No data available
Flammability (solid, gas) No data available
upper flammability limit No data available
lower flammability limit No data available

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No data available **Evaporation rate Vapor Pressure** No data available **Vapor Density** No data available **Specific Gravity** No data available Water Solubility Insoluble in water Solubility in other solvents No data available Partition coefficient: n-octanol/water No data available No data available **Autoignition Temperature Decomposition Temperature** No data available **Viscosity** No data available No information available **Explosive Properties Oxidizing Properties** No information available

9.2. Other information

VOC Content (%) No data available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

None anticipated

10.5. Incompatible Materials

Strong oxidizers.

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity Inhalation

May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

Eye Contact Skin Contact Ingestion

May cause eye irritation.

May cause skin irritation. May cause an allergic skin reaction.

May produce nervous system effects such as feeling of weakness, unsteady walk, and dilation of blood vessels. May affect the heart and cardiovascular system. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

Chronic Effects/Carcinogenicity

Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of guartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies

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respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

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Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Petroleum distillates, hydrotreated middle	64742-46-7	7400 mg/kg (Rat)	2000 mg/kg (Rabbit)	4.6 mg/L (Rat) 4 h
Diethylene glycol monobutyl ether	112-34-5	3384 mg/kg (Rat) 6560 mg/kg (Rat) 5660 mg/kg (Rat) 2406 mg/kg (Mouse) 2000 mg/kg (Guinea pig)	2700 mg/kg (Rabbit) 2764 mg/kg (Rabbit)	No data available
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	> 2020 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available
Hydrotreated light petroleum distillate	64742-47-8	> 5000 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rabbit) (similar substance)	> 5.28 mg/L (Rat) 4h (similar substance)
Calcium chloride, dihydrate	10035-04-8	2301 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	No data available
Crystalline silica, quartz	14808-60-7	>15,000 mg/kg (Human)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Diethylene glycol monobutyl ether	112-34-5	Mild skin irritation (Rabbit)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Non-irritating to the skin
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to the skin (similar substances)
Calcium chloride, dihydrate	10035-04-8	Causes mild skin irritation (Rabbit)
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Eye damage/irritation
Diethylene glycol monobutyl ether	112-34-5	Causes moderate eye irritation. (Rabbit)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Non-irritating to the eye
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to rabbit's eye
Calcium chloride, dihydrate	10035-04-8	May cause moderate to severe eye irritation. (Rabbit)
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Diethylene glycol monobutyl ether	112-34-5	Did not cause sensitization on laboratory animals (guinea pig)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Skin sensitizer in guinea pig.
Hydrotreated light	64742-47-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

petroleum distillate		
Calcium chloride, dihydrate	10035-04-8	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	No information available.

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Substances	CAS Number	Respiratory Sensitization
Diethylene glycol monobutyl ether	112-34-5	No information available
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Hydrotreated light petroleum distillate	64742-47-8	No information available
Calcium chloride, dihydrate	10035-04-8	No information available
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Diethylene glycol monobutyl ether	112-34-5	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	In vivo tests did not show mutagenic effects.
Hydrotreated light petroleum distillate	64742-47-8	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Calcium chloride, dihydrate	10035-04-8	In vitro tests did not show mutagenic effects
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Diethylene glycol monobutyl ether	112-34-5	No information available.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available.
Hydrotreated light petroleum distillate	64742-47-8	Did not show carcinogenic effects in animal experiments
Calcium chloride, dihydrate	10035-04-8	No information available.
Crystalline silica, quartz		Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.

Substances	CAS Number	Reproductive toxicity
Diethylene glycol monobutyl ether		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Animal testing did not show any effects on fertility.
Hydrotreated light petroleum distillate	64742-47-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Calcium chloride, dihydrate	10035-04-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	STOT - single exposure	
Diethylene glycol monobutyl ether	112-34-5	No significant toxicity observed in animal studies at concentration requiring classification.	
Fatty acid, tall-oil, reaction	68990-47-6	No information available	

product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine		
Hydrotreated light petroleum distillate	64742-47-8	May cause disorder and damage to the Central Nervous System (CNS) (similar substances)
Calcium chloride, dihydrate	10035-04-8	No significant toxicity observed in animal studies at concentration requiring classification.
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

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Substances	CAS Number	STOT - repeated exposure
Diethylene glycol monobutyl ether	112-34-5	No significant toxicity observed in animal studies at concentration requiring classification.
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No data of sufficient quality are available.
Hydrotreated light petroleum distillate	64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Calcium chloride, dihydrate	10035-04-8	No significant toxicity observed in animal studies at concentration requiring classification.
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Substances	CAS Number	Aspiration hazard
Diethylene glycol monobutyl ether	112-34-5	Not applicable
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Calcium chloride, dihydrate	10035-04-8	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Petroleum distillates, hydrotreated middle	64742-46-7	No information available	No information available	No information available	No information available
Diethylene glycol monobutyl ether	112-34-5	EC50 > 100 mg/L (Desmodesmus subspicatus)	LC50 1300 mg/L (Lepomis macrochirus)	EC10 >1995 mg/L (Activated sludge, industrial)	EC50 > 100 mg/L (Daphnia magna)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	EC50 (72h) > 100 mg/L (growth rate) (Pseudokirchnerella subcapitata)	LC50 (96h) > 100 mg/L (Danio rerio)	EC50 (3h) > 100 mg/L (Activated sludge) (respiration rate)	IC50 (48h) > 100 mg/L (Daphnia magna)
Hydrotreated light petroleum distillate	64742-47-8	EC50 (72h) > 1,000 mg/L (Skeletonema costatum) ErL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) EbL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) NOELR (72h) 1000 mg/L (Pseudokirchneriella	LC50 (96h) > 10,000 mg/L (Scophthalmus maximus) LL50 (96h) > 1000 mg/L (Oncorhynchus mykiss)	No information available	LC50 (48h) > 10,000 mg/L (Acartia tonsa) EC50 (48h) 1100 mg/L (Daphnia pulex) LC50 (48h) 0.12 mg/L (Daphnia magna) EL50 (48h) > 1000 mg/L (Daphnia magna)

		subcapitata)			
Calcium chloride, dihydrate	10035-04-8	EC50 (72h) 2900 mg/L (Pseudokirchnerella subcapitata) EC50 (72h) >4000 mg/L (Pseudokirchnerella subcapitata)	LC50 (96h) 4630 mg/L (Pimephales promelas)	NOEC 2000 mg/L (Activated sludge, industrial)	EC50 (48h) 1285 mg/L (Daphnia magna) EC16 (21d) 320 mg/L (Daphnia magna) ErC50 (21d) 610 mg/L (Daphnia magna) LC50 (48h) 1285 mg/L (Daphnia magna) LC50 (48h) 2400 mg/L (Daphia magna)
Crystalline silica, quartz	14808-60-7	No information available	LL0 (96h) 10,000 mg/L (Danio rerio) (similar substance)	No information available	LL50 (24h) > 10,000 mg/L (Daphnia magna) (similar substance)

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12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Petroleum distillates, hydrotreated middle	64742-46-7	No information available
Diethylene glycol monobutyl ether	112-34-5	Readily biodegradable (85% @ 28d)
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	Readily biodegradable (71% @ 28d)
Hydrotreated light petroleum distillate	64742-47-8	Readily biodegradable (40% @ 28d)
Calcium chloride, dihydrate	10035-04-8	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Petroleum distillates, hydrotreated middle	64742-46-7	No information available
Diethylene glycol monobutyl ether	112-34-5	1.0
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	2.4
Hydrotreated light petroleum distillate	64742-47-8	No information available
Calcium chloride, dihydrate	10035-04-8	No information available
Crystalline silica, quartz	14808-60-7	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Petroleum distillates, hydrotreated middle	64742-46-7	No information available
Diethylene glycol monobutyl ether	112-34-5	No information available
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	68990-47-6	No information available
Hydrotreated light petroleum distillate	64742-47-8	No information available
Calcium chloride, dihydrate	10035-04-8	No information available
Crystalline silica, quartz	14808-60-7	No information available

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Petroleum distillates, hydrotreated middle	Not PBT/vPvB
Diethylene glycol monobutyl ether	Not PBT/vPvB
Fatty acid, tall-oil, reaction product with diethylenetriamine, maleic anhydride, tetraethylenepentamine, and triethylenetetramine	Not PBT/vPvB
Hydrotreated light petroleum distillate	Not PBT/vPvB
Calcium chloride, dihydrate	Not applicable
Crystalline silica, quartz	Not applicable

12.6. Other adverse effects

Endocrine Disruptor Information

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This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Disposal Method Contaminated Packaging Disposal should be made in accordance with federal, state, and local regulations.

Follow all applicable national or local regulations.

SECTION 14: Transport Information

IMDG/IMO

UN Number: Not restricted **UN Proper Shipping Name:** Not restricted Transport Hazard Class(es): Not applicable **Packing Group:** Not applicable **Environmental Hazards:** Not applicable

RID

UN Number: Not restricted **UN Proper Shipping Name:** Not restricted **Transport Hazard Class(es):** Not applicable **Packing Group:** Not applicable Not applicable **Environmental Hazards:**

ADR

UN Number: Not restricted **UN Proper Shipping Name:** Not restricted Not applicable **Transport Hazard Class(es): Packing Group:** Not applicable **Environmental Hazards:** Not applicable

IATA/ICAO

UN Number: Not restricted **UN Proper Shipping Name:** Not restricted Transport Hazard Class(es): Not applicable **Packing Group:** Not applicable **Environmental Hazards:** Not applicable

14.1. UN Number: Not restricted

14.2. UN Proper Shipping Name: Not restricted

14.3. Transport Hazard Class(es): Not applicable

14.4. Packing Group: Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

EINECS Inventory This product does not comply with EINECS **US TSCA Inventory** All components listed on inventory or are exempt.

Product contains one or more components not listed on the inventory. **Canadian DSL Inventory**

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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Germany, Water Endangering Classes (WGK)

Not determined.

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Petroleum distillates, hydrotreated middle	64742-46-7	Use restricted. See item 28.	Not applicable
Diethylene glycol monobutyl ether	112-34-5	Use restricted. See item 55. Conditions of restrictions 27 June 2010	Not applicable

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information

Full text of H-Statements referred to under sections 2 and 3

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H350 - May cause cancer

H351 - Suspected of causing cancer if inhaled

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

H412 - Harmful to aquatic life with long lasting effects

Key or legend to abbreviations and acronyms

bw - body weight

CAS - Chemical Abstracts Service

CLP - REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification,

Labelling and Packaging of substances and mixtures

EC - European Commission

EC10 - Effective Concentration 10%

EC50 - Effective Concentration 50%

EEC - European Economic Community

ErC50 – Effective Concentration growth rate 50%

IBC Code - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 - Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 - Lethal Loading 0%

LL50 - Lethal Loading 50%

MARPOL - International Convention for the Prevention of Pollution from Ships

mg/kg - milligram/kilogram

mg/L - milligram/liter

NIOSH - National Institute for Occupational Safety and Health

NOEC - No Observed Effect Concentration

NTP - National Toxicology Program

OEL - Occupational Exposure Limit

PBT - Persistent Bioaccumulative and Toxic

PC - Chemical Product category

PEL - Permissible Exposure Limit

ppm - parts per million

PROC - Process category

REACH - REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the

Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL - Short Term Exposure Limit

SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

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Revision Note

SDS sections updated: 2, 3

Revision Date: 14-Dec-2015

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

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End of Safety Data Sheet