



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** OAKFLO® DSO 650  
METALWORKING FLUID

**Other means of identification**

**SDS number** Not applicable

**Recommended use** METALWORKING FLUID

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company name** CIMCOOL® Industrial Products LLC  
3000 Disney Street  
Cincinnati, Ohio 45209

**Telephone (General Information)** 513-458-8100

**Emergency telephone number** 1-800-424-9300 (CHEMTREC)

**Emergency telephone number (outside USA)** 1-703-527-3887 (CHEMTREC)

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Skin irritation Category 2  
Serious eye irritation Category 2A  
Sensitization, skin Category 1

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Warning

**Hazard statement** Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.

### Precautionary statement

**Prevention** Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

**Response** If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Take off contaminated clothing and wash before reuse.

**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** 2.7% of the mixture consists of component(s) of unknown acute dermal toxicity.

The classified hazards shown on this SDS are associated with the product concentrate. These hazards are not expected under recommended use conditions and dilution.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES		64742-52-5	40 - 50
ALKANES C14-16, CHLORO		1372804-76-6	10 - 20
MONOETHANOLAMINE		141-43-5	3 - 5
ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED		68439-51-0	1 - 3
HEXAHYDRO-1,3,5-TRIS (2-HYDROXYETHYL)-S- TRIAZINE		4719-04-4	1 - 3
TRIETHANOLAMINE		102-71-6	1 - 3
Other components below reportable levels			20 - 30

The exact percentages of hazardous ingredients have been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
<b>Skin contact</b>	Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not give liquids. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause an allergic skin reaction.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
<b>General information</b>	If exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Dry chemical powder. Carbon dioxide (CO2). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.
<b>Fire fighting equipment/instructions</b>	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire and/or explosion do not breathe fumes.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. 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.
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**Methods and materials for containment and cleaning up**

Local authorities should be advised if significant spillages cannot be contained. This product is miscible in water. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

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

**Environmental precautions**

Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

**7. Handling and storage**

**Precautions for safe handling**

Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not get in eyes, on skin, or on clothing. Avoid breathing mist or vapor. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store in original tightly closed container. Store in a well-ventilated place. Do not allow material to freeze. Store away from incompatible materials (see Section 10 of the SDS). If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use.

**8. Exposure controls/personal protection**

**Occupational exposure limits**

**U.S. - OSHA**

	Type	Value
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES (CAS 64742-52-5)	PEL	5 mg/m3

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	PEL	6 mg/m3 3 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards**

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	15 mg/m3
	TWA	6 ppm 8 mg/m3 3 ppm

**ACGIH**

	Type	Value
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES (CAS 64742-52-5)	TWA	5 mg/m3

**US. ACGIH Threshold Limit Values**

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm
TRIETHANOLAMINE (CAS 102-71-6)	TWA	5 mg/m3

<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). Do not get in eyes. Eye wash fountain is recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Use protective gloves made of: Nitrile.
<b>Other</b>	Wear appropriate chemical resistant clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. Do not get in eyes, on skin, on clothing. 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

<b>Appearance</b>	CLEAR
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	Chemical
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not Applicable
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not Applicable
<b>Flash point</b>	385 °F (196.1 °C) Cleveland Open Cup
<b>Evaporation rate</b>	Like water when diluted
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	100 % Miscible
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Flash point class</b>	Combustible IIIB
<b>Oxidizing properties</b>	Not oxidizing.
<b>pH in aqueous solution</b>	8.6 @ 5%
<b>Specific gravity</b>	1.020

**10. Stability and reactivity**

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Acids. Oxidizing agents. Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines.
<b>Hazardous decomposition products</b>	Smoke, fumes, oxides of nitrogen, hydrogen chloride, and oxides of carbon

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

<b>Inhalation</b>	Not classified.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes eye irritation.
<b>Ingestion</b>	Not classified.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation.

**Information on toxicological effects****Acute toxicity**

<b>Components</b>	<b>Species</b>	<b>Test Results</b>
ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED (CAS 68439-51-0)		
<u><b>Acute</b></u>		
<b>Dermal</b>		
<i>Liquid</i>		
LD50	Rabbit	> 2000 mg/kg ATE
<b>Oral</b>		
<i>Liquid</i>		
LD50	Rat	> 2000 mg/kg
ALKANES C14-16, CHLORO (CAS 1372804-76-6)		
<u><b>Acute</b></u>		
<b>Dermal</b>		
<i>Liquid</i>		
LD50	Rabbit	> 2000 mg/kg
<b>Oral</b>		
<i>Liquid</i>		
LD50	Rat	> 5000 mg/kg
MONOETHANOLAMINE (CAS 141-43-5)		
<u><b>Acute</b></u>		
<b>Dermal</b>		
LD50	Rabbit	1025 mg/kg
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES (CAS 64742-52-5)		
<u><b>Acute</b></u>		
<b>Inhalation</b>		
<i>Mist</i>		
LC50	Rat	2.18 - 5.53 mg/l, 4 hr

Components	Species	Test Results
TRIETHANOLAMINE (CAS 102-71-6)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg
<b>Oral</b>		
<i>Liquid</i>		
LD50	Rat	4190 mg/kg
* Estimates for product may be based on additional component data not shown.		
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Causes eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	May cause an allergic skin reaction.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
TRIETHANOLAMINE (CAS 102-71-6)	3 Not classifiable as to carcinogenicity to humans.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>		
Not regulated.		
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	Not classified.	
<b>Further information</b>	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.	

## 12. Ecological information

**Ecotoxicity** Contains a substance which causes risk of hazardous effects to the environment.

Components	Species	Test Results	
ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED (CAS 68439-51-0)			
<i>Acute</i>			
EC50	Bacteria	> 1000 mg/l	
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	0.5 mg/l, 48 hours ATE
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)	1 - 10 mg/l, 96 hours
ALKANES C14-16, CHLORO (CAS 1372804-76-6)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 0.1 mg/l, 96 hours
MONOETHANOLAMINE (CAS 141-43-5)			
<b>Aquatic</b>			
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	114 - 196 mg/l, 96 hours

Components	Species	Test Results
<i>Acute</i> Crustacea	EC50 Daphnia	65 mg/l, 48 hours ECHA
TRIETHANOLAMINE (CAS 102-71-6)		
<b>Aquatic</b> Crustacea	EC50 Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/l, 48 hours
<i>Acute</i> Fish	LC50 Bluegill (Lepomis macrochirus)	450 - 1000 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

#### Persistence and degradability

#### Bioaccumulative potential

##### Partition coefficient n-octanol / water (log Kow)

ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED	1 - 4
MONOETHANOLAMINE	-1.31
TRIETHANOLAMINE	-2.3

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

**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

<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s. (ALKANES C14-16, CHLORO, ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	8, 146, 335, IB3, T4, TP1, TP29
<b>Packaging exceptions</b>	155
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241

Supplemental Information: 49CFR 171.4 excludes "non-bulk"packages (119 gallons or less) from Marine Pollutant Requirements unless all or part of the shipment is by vessel.

#### IATA

<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s. (ALKANES C14-16, CHLORO, ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-

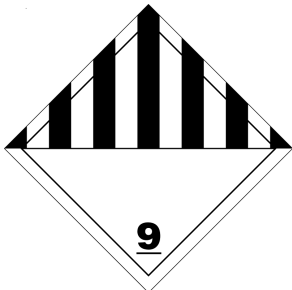
**Packing group** III  
**Environmental hazards** Yes  
**ERG Code** 9L  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Other information**

**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.

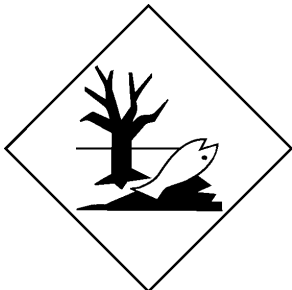
#### IMDG

**UN number** UN3082  
**UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKANES C14-16, CHLORO, ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED), MARINE POLLUTANT  
**Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Packing group** III  
**Environmental hazards**  
**Marine pollutant** Yes  
**EmS** F-A, S-F  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

#### DOT; IATA; IMDG



#### Marine pollutant



**General information** IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. It may be reportable under the provisions of SARA Sections 311 and 312 if specific threshold criteria are met or exceeded.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

HEXAHYDRO-1,3,5-TRIS (2-HYDROXYETHYL)-S-TRIAZINE (CAS 4719-04-4)

1.0 % One-Time Export Notification only.

#### TSCA Chemical Action Plans, Chemicals of Concern

ALKANES C14-16, CHLORO (CAS 1372804-76-6)

Short-Chain Chlorinated Paraffins (SCCPs) and Other Chlorinated Paraffins Action Plan

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.



**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

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

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**      Yes

**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.

**Food and Drug Administration (FDA)**      Not regulated.

**US state regulations****US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ALKANES C14-16, CHLORO (CAS 1372804-76-6)

SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES (CAS 64742-52-5)

**California South Coast Air Quality Management District (SCAQMD) Rule 1144 (VOC Emissions)**      This product is subject to SCAQMD Rule 1144; it is compliant and may be sold and used in the SCAQMD. The VOC content of the product is 107 g/L, measured by ASTM Method E-1868-10. This product has a specified use dilution VOC limit of 75 g/L, the maximum dilution concentration is 70 % to maintain compliance.

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**International Inventories**

Country(s) or region	Inventory name	On inventory or exempt (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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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)

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

**Issue date**      03-06-2014

<b>Revision date</b>	12-18-2017
<b>Version #</b>	06
<b>Further information</b>	Not available.
<b>NFPA ratings</b>	Health: 1 Flammability: 1 Instability: 0
<b>Disclaimer</b>	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
<b>Revision information</b>	Physical & Chemical Properties: Multiple Properties