


**SAFETY DATA SHEET**  
ACCORDING TO EC-REGULATIONS 1907/2006 (REACH) & 1272/2008 (CLP)

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**
- GHS Product Identifier** CERECLOR™ S40/S45/S50 /S52/S52HV/  
S52SS/51L/S54/S55/S56/S58/S60/S63
- EC INDEX No.** 602-095-00-X
- Alternative names** Medium-chain chlorinated paraffins/alkanes, C14-C17, chloro  
Alkanes, C14-17, chloro  
C14-17 chlorinated paraffin (chlorination: 40 - 60%)
- REACH Registration No.** 01-2119519269-33-XXXX
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
- Identified use(s)** lubricants and lubricant additives , anti-set off and adhesive agent , flame  
retardant , plasticiser in polyvinyl chloride and in paints, extreme pressure  
additives (metal cutting/working fluids) , solvent in carbonless copy paper and fat  
liquors used in leather processing , softeners  
For details on specific grades please refer to technical literature.
- Uses advised against** As a plasticiser in products for childrens' toys and food contact applications.
- 1.3 Details of the supplier of the safety data sheet**
- Company Identification** INEOS Chlor Limited  
Runcorn Site HQ  
South Parade, PO Box 9  
Runcorn, Cheshire, WA7 4JE  
Tel : (01928) 561111, Fax : (01928) 516636
- E-Mail (competent person)** msds.chlor@ineos.com
- 1.4 Emergency telephone number**  
IN AN EMERGENCY DIAL 999 (UK only) or 112 (EU)  
For specialist advice in an emergency telephone Runcorn +44 (0)1928 572000

## 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
- Directive 67/548/EEC & Directive 1999/45/EC**
- N : Dangerous for the environment.  
R50/53 Very toxic to aquatic organisms, may cause long-term  
adverse effects in the aquatic environment.  
R64 May cause harm to breastfed babies.  
R66 Repeated exposure may cause skin dryness and cracking.
- Regulation (EC) No. 1272/2008 (CLP)** Aquatic Acute 1 , Aquatic Chronic 1 , Lact.
- 2.2 Label elements**
- Hazard Statements** H362: May cause harm to breast-fed children.  
H410: Very toxic to aquatic life with long lasting effects.
- Signal word(s)** WARNING
- Hazard pictogram(s)**
- 
- Precautionary statement(s)**  
P273: Avoid release to the environment.  
P391: Collect spillage.  
P501: Dispose of contents/container to: An approved hazardous waste facility.  
P260: Do not breathe mist/vapours/spray.  
P263: Avoid contact during pregnancy/while nursing.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.
- Additional label requirements**  
EUH066: Repeated exposure may cause skin dryness or cracking.

**2.3 Other hazards**

This product does not contain any of the PBT substance, short-chain chlorinated paraffins (CAS No 85535-84-8).

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Hazardous ingredient(s)	%(w/w)	CAS No.	EC No.	H - Codes
C14-17 Chlorinated paraffin	100	085535-85-9	287-477-0	H362, H410 EUH066

**4. FIRST AID MEASURES****4.1 Description of first aid measures**

<b>Inhalation</b>	Remove patient from exposure, keep warm and at rest.
<b>Skin Contact</b>	Remove contaminated clothing. Wash skin with soap and water.
<b>Eye Contact</b>	Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

**4.2 Most important symptoms and effects, both acute and delayed**

If skin irritation or rash occurs: Get medical advice/attention.

**4.3 Indication of the immediate medical attention and special treatment needed**

Unlikely to be required but if necessary treat symptomatically.

**5. FIRE-FIGHTING MEASURES****5.1 Extinguishing media**

**Suitable Extinguishing Media** Normal extinguishing media. Water spray, dry powder or carbon dioxide.  
**Unsuitable Extinguishing Media** None anticipated.

**5.2 Special hazards arising from the substance or mixture**

Non-flammable. May decompose if heated above 200 Deg C with liberation of hydrogen chloride.

**5.3 Advice for fire-fighters**

A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Wear suitable gloves and eye/face protection.

**6.2 Environmental precautions**

Do not allow to enter drains, sewers or watercourses.

**6.3 Methods and material for containment and cleaning up**

Caution - spillages may be slippery. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery.

**6.4 Reference to other sections**

See Section: 8, 13

**6.5 Additional information**

Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Provide adequate ventilation where operational procedures demand it.  
Do not allow to enter drains, sewers or watercourses.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container dry. Keep away from direct sunlight.  
Keep only in the original container at a temperature not exceeding (°C): 40  
Storage vessels should be made of lined mild steel in accordance with the advice given in CERECLOR™ Bulk Storage and Handling brochure. Total storage life at recommended conditions: 2 years if stored in accordance with advice given above.

### 7.3 Specific end use(s)

None

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters

No Occupational Exposure Limit Assigned

DNEL	oral	Inhalation	Dermal
Industry - Long Term - Local effects	-	-	-
Industry - Long Term - Systemic effects	-	1.6 mg/m <sup>3</sup>	47.9 mg/kg bw/day
Industry - Short term - Local effects	-	-	-
Industry - Short term - Systemic effects	-	-	--
Consumer. - Long Term - Local effects	-	-	-
Consumer. - Long Term - Systemic effects	0.58 mg/kg bw/day	2.0 mg/m <sup>3</sup>	28.75 mg/kg bw/day
Consumer. - Short term - Local effects	-	-	-
Consumer. - Short term - Systemic effects	-	-	--

Environment	PNEC
Aquatic Compartment (including sediment)	1 µg/l Fresh water 0.2 µg/l Marine water 80 mg/l Micro-organisms ( sewage treatment plant ) 5 mg/kg Wet Sediment ( Fresh water ) 1 mg/kg Wet Sediment ( Marine water )
Terrestrial Compartment	10.5 mg/kg Wet ( Soil )
Atmospheric Compartment	No data.

### 8.2 Exposure controls

#### Appropriate engineering controls

Provide adequate ventilation where operational procedures demand it.  
Use appropriate containment to avoid environmental contamination.

#### Personal Protection

**Eyeface protection** If splashing or mist is likely to occur: Wear eyeface protection.

**Skin protection** Good working practice suggests gloves and goggles should be worn. The following materials are suitable for protective gloves (permeation time >= 8 hours): Nitrile rubber.  
Check with protective equipment manufacturer's data.

**Respiratory protection** Wear suitable respiratory protective equipment if exposure to mist is likely. Where a cartridge/canister respirator is suitable use: Type P (EN143)  
Check with protective equipment manufacturer's data.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Form</b>	Liquid
<b>Odour</b>	Slight.
<b>Boiling Point (Deg C)</b>	>200, Decomposes below boiling point.
<b>Flash Point (Deg C)</b>	None.
<b>Vapour Pressure (mm Hg)</b>	practically non-volatile
<b>Density (g/ml)</b>	1.10 - 1.45 at 25 Deg C
<b>Solubility (Water)</b>	insoluble
<b>Solubility (Other)</b>	Soluble in most aromatic hydrocarbons, chlorinated solvents, esters and ketones.
<b>Pour Point (Deg C)</b>	-40 to +27

**9.2 Other information**

None

**10. STABILITY AND REACTIVITY****10.1 Reactivity**

Non-reactive

**10.2 Chemical Stability**

Stable at ambient temperatures.

**10.3 Possibility of hazardous reactions**

Can react with alkali metals and alkaline earth metals which have a strong affinity for chlorine. Can react with iron, zinc and aluminium at high temperatures leading to decomposition.

**10.4 Conditions to avoid**

strong oxidising agents, heat and hot surfaces.  
Chlorinated paraffins tend to soften or swell most rubbers.

**10.5 Incompatible materials**

Keep away from strong oxidising agents.

**10.6 Hazardous Decomposition Product(s)**

Prolonged heating at temperatures in excess of 70 Deg C or heating above 200 Deg C for short periods of time will result in decomposition and liberation of hydrogen chloride.

**11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

Low oral toxicity. Unlikely to be hazardous by inhalation.  
Repeated exposure may cause skin dryness or cracking. Anticipated to have low dermal toxicity

This health hazard assessment is based on information available on similar products.

*Test result / data***Acute oral toxicity**

The acute oral LD50 for C14-17 chlorinated paraffins in rats is &gt;2 g/kg bw.

**Acute inhalation toxicity**

No data available for C14-C17 chlorinated paraffins.  
No deaths were seen in acute inhalation studies in rats exposed to air containing a C12 chlorinated paraffin (59% chlorination) at 3.3 mg/l or a 50% chlorinated short chain chlorinated paraffin (unspecified chain length) at 48 mg/l for 1 hr.

**Acute dermal toxicity**

No data available for C14-C17 chlorinated paraffins.  
The acute dermal LD50 of a C10-13 chlorinated paraffin (52% chlorinated) in rats and a C12 chlorinated paraffin (59% chlorinated) in rabbits is >2g/kg bw.

**Skin irritation.**

Slight skin irritation reported in two studies conducted according to OECD Guideline 404 using undilute C14-17 chlorinated paraffins (40 & 52% chlorination - containing 1% epoxy stabiliser).

**Serious eye damage/irritation**

Slight eye irritation reported in two studies conducted according to OECD Guideline 405 using undilute C14-17 chlorinated paraffins (40 & 52% chlorination - containing 1% epoxy stabiliser).

**Respiratory irritation**

No reliable data available. There are no reports relating to this endpoint despite the widespread use of this substance.

**Sensitisation**

It is not a skin sensitiser in animal tests.

**Repeated dose toxicity**

Repeated exposure to high levels may produce liver and kidney damage.  
Chronic ingestion studies in animals have shown that repeated doses of a representative chlorinated paraffin (C14-17, 52%) gave no adverse effects at doses 23 mg/kg/day (90 day study). Slight effects on the liver were seen at doses >360 mg/kg/day. These effects occur after the administration of high oral doses of C14-C17 chlorinated paraffins to the female rat, a situation that would not arise under any reasonably foreseeable circumstances of human exposure.

**Germ cell mutagenicity**

Not mutagenic to bacteria or in in-vivo mouse bone marrow micronucleus assays.

<b>Carcinogenicity</b>	MCCPs have not been tested for carcinogenicity. Chlorinated paraffins, as a group of chemicals are not genotoxic. Their lack of genotoxic activity together with the results of other studies leads us to conclude that chlorinated paraffins are unlikely to present a carcinogenic hazard to man under normal conditions of handling and use.
<b>Reproductive toxicity</b>	No reported effects on fertility at doses up to 400 mg/kg/day. No effects in conventional development toxicity studies with doses up to 5000 mg/kg/day (rat) and 100 mg/kg/day (rabbit). Mortality due to internal haemorrhaging has been seen in newborn rats, reared by dams fed on high doses of a similar chlorinated paraffin.
<b>Specific target organ toxicity — single exposure (STOT SE)</b>	Not classified
<b>Specific target organ toxicity — repeated exposure (STOT RE)</b>	Not classified
<b>Aspiration hazard</b>	Not an aspiration hazard

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

A representative C14-17 chlorinated paraffin has been shown to be toxic to daphnia in laboratory studies. It showed a low level of toxicity to another aquatic invertebrate species (gammarus) and to fish and algae.

Toxicity to aquatic species:

Aquatic invertebrates: Daphnia magna 48hr - EC50 = 0.006 mg/l

Crustacean(Gammarus pulex) 96 hr - LC50 = >1.0 mg/l

Fish : Alburnus alburnus (bleak) 96hr - LC50 = >5000 mg/l

Algae (Selenastrum capricornutum) 96 hr - EC50 (biomas) = >3.2 mg/l

M-Factor = 100

### 12.2 Persistence and degradability

Concentrations in the atmosphere are likely to be very small due to low volatility. Estimated atmospheric half life is 1 - 2 days.

Biodegradation in soil: Studies conducted on C14.5 & C15.4 (average C chain length) with 43.5% & 50% chlorination showed 57% and 51% degradation of the test substance after 36 hours.

Biodegradation in water and sediments: Simulation tests conducted on two C16 chlorinated paraffins (containing 35% Cl2 & 58% Cl2) gave a half-life (DT50) of 12 days and 58 days in freshwater sediment respectively.

### 12.3 Bioaccumulative potential

The product has potential for limited bioaccumulation. (BCF <2000 L/kg, BMF <1)

### 12.4 Mobility in soil

The product is predicted to have low mobility in soil.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

This product does not contain any of the PBT substance, short-chain chlorinated paraffins (CAS No 85535-84-8).

### 12.6 Other adverse effects

None known

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

This material and/or its container must be disposed of as hazardous waste.

Do not discharge into drains or the environment, dispose to an authorised waste collection point.

### 13.2 Additional information

Disposal should be in accordance with local, state or national legislation.

**14. TRANSPORT INFORMATION**

- 14.1 Road/Rail**
- |                         |  |
|-------------------------|--|
| UN No.                  | 3082   |
| Proper Shipping Name    | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S<br>(CHLORINATED PARAFFINS (C14-17)) |
| ADR/RID Class           | 9  |
| Packing Group           | III  |
| Label.                  | 9  |
| Environmental hazards   | Dangerous for the environment.   |
| Tunnel Restriction Code | (E)  |
- 14.2 SEA ( IMDG )**
- |                      |  |
|----------------------|--|
| UN No.               | 3082   |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S<br>(CHLORINATED PARAFFINS (C14-17)) |
| IMDG Class           | 9  |
| Packing Group        | III  |
| Label.               | 9  |
| Marine Pollutant     | Classified as a Marine Pollutant (P)   |
- 14.3 Air ( ICAO/IATA )**
- |                      |  |
|----------------------|--|
| UN No.               | 3082   |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S<br>(CHLORINATED PARAFFINS (C14-17)) |
| ICAO-TI Class        | 9  |
| Packing Group        | III  |
| Label.               | 9  |
- 14.4 Additional Information**  
None

**15. REGULATORY INFORMATION**

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
Control of Substances Hazardous to Health Regulations (COSHH) 2002 SI 2002/2677 and COSHH Essentials: Easy steps to control chemicals - Control of Substances Hazardous to Health Regulations HSG193.
- Inventory Status*  
Listed in: Australia (AICS) Canada (DSL/NDL) China (IECSC) European Union (EINECS/ELINCS) South Korea (KECI) Philippines (PICCS) New Zealand Inventory (NZIoC)
- 15.2 Chemical Safety Assessment**  
A Chemical Safety Assessment (CSA) has been completed for this substance.

**16. OTHER INFORMATION**

**Indication of changes** All sections revised according to CLP/GHS requirements.(UK1.1 Section 12.1)

**LEGEND**

WEL : Workplace Exposure Limit (UK HSE EH40)  
 COM : The company aims to control exposure in its workplace to this limit  
 TLV : The company aims to control exposure in its workplace to the ACGIH limit  
 TLV-C: The company aims to control exposure in its workplace to the ACGIH Ceiling limit  
 MAK : The company aims to control exposure in its workplace to the German limit  
 Sk : Can be absorbed through skin  
 Sen : Capable of causing respiratory sensitisation  
 Bmgv : Biological monitoring guidance value (UK HSE EH40)  
 ILV : Indicative Limit Value (UK HSE EH40)  
 IOELV : Indicative Occupational Exposure Limit Value

**Key literature references**

Chemical Safety Report, Medium-chain chlorinated paraffins/alkanes, C14-C17, chloro (13/9/2010)  
 GESTIS -database on hazardous substances

## Further information

CERECLOR™ is a trade mark, the property of INEOS Chlor Limited.

INEOS™ is a trade mark, the property of INEOS Capital Limited.

Information in this publication is believed to be accurate and is given in good faith, but it is for the Customer to satisfy itself of the suitability for its own particular purpose. Accordingly, INEOS Chlor Limited gives no warranty as to the fitness of the Product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that such exclusion is prevented by law. Freedom under Patent, Copyright and Designs cannot be assumed.