

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

### SECTION 1. IDENTIFICATION

Product name : CALCINATE C-70  
Product code : 00000000062635749

#### Manufacturer or supplier's details

Company : LANXESS Corporation  
Product Safety & Regulatory Affairs  
111 RIDC Park West Drive  
Pittsburgh, Pennsylvania 15275-1112

Responsible Department : (800) LANXESS  
(412) 809-1000  
lanxesshes@lanxess.com

Emergency telephone : CHEMTREC (800) 424-9300 or  
(703) 527-3887 (Outside U.S.A) and mention CCN12916.  
Lanxess Emergency Phone (800) 410-3063.

#### Recommended use of the chemical and restrictions on use

Recommended use : Lubricants and lubricant additives  
Lubricants, greases, release products

---

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization : Category 1

#### GHS label elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements : May cause an allergic skin reaction.

Precautionary Statements : **Prevention:**  
Avoid breathing mist or vapors.

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice/ attention.  
Wash contaminated clothing before reuse.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified	64742-70-7	>= 20 - < 30
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	>= 20 - < 30
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	>= 10 - < 20
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	70024-69-0	>= 10 - < 20
Calcium Petroleum Sulfonate	61789-86-4	>= 10 - < 20

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

### SECTION 4. FIRST AID MEASURES

If inhaled : Get medical attention immediately.  
Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If unconscious, place in recovery position and get medical attention immediately.  
Maintain open airway.  
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

In case of skin contact : Wash off with soap and water.

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Remove contaminated clothing and shoes.  
Continue to rinse for at least 20 minutes.  
Get medical attention if symptoms occur.  
Wash contaminated clothing before reuse.

In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Get medical attention if symptoms appear.

If swallowed : Rinse mouth with water.  
Do not induce vomiting unless directed to do by medical personnel.  
Get medical attention if symptoms occur.

### Most important symptoms and effects, both acute and delayed

Symptoms : Skin: Causes irritation with symptoms of reddening, itching, and swelling.  
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.  
May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

Effects : May cause an allergic skin reaction.

Notes to physician : Treat symptomatically.

---

### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Metal oxides

Further information : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.  
No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

# SAFETY DATA SHEET

## CALCINATE C-70



Version            Revision Date:            SDS Number:            Date of last issue: 03/02/2023  
3.0                07/20/2023                203000022561            Country / Language: US / EN

---

---

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training.  
Put on appropriate personal protection equipment.  
Do not touch or walk through spilled material.  
Evacuate unnecessary personnel.  
Keep unnecessary and unprotected personnel from entering.  
Provide adequate ventilation.  
Do not breathe vapors, aerosols.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Stop leak if safe to do so.  
Move containers from spill area.  
Wash spillages into an effluent treatment plant or proceed as follows.  
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).  
Dispose of wastes in an approved waste disposal facility.  
Do not allow into the sewerage system, surface waters or groundwater or into the soil.  
Contaminated absorbent material may pose the same hazard as the spilled product.

---

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Remove contaminated clothing and protective equipment before entering eating areas.  
Workers should wash hands and face before eating, drinking and smoking.  
Put on appropriate personal protection equipment.  
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.  
Persons with a history of skin sensitization to this product should not be employed in any process in which this product is used.  
Avoid inhalation, ingestion and contact with skin and eyes.  
Use only with adequate ventilation.
- Conditions for safe storage : Store in accordance with local regulations.  
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

Keep containers sealed until ready for use.  
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.  
Do not store in unlabeled containers.  
Use appropriate container to avoid environmental contamination.  
Empty containers retain residue and can be dangerous.  
Do not reuse container.

Further information on storage stability : No decomposition if stored and applied as directed.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified	64742-70-7	TWA (Mist)	5 mg/m <sup>3</sup>	OSHA Z-1
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	TWA (Inhalable particulate matter)	5 mg/m <sup>3</sup>	ACGIH

**Engineering measures** : If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

#### Personal protective equipment

**Respiratory protection** : not required under normal use  
In the case of vapor formation use a respirator with an approved filter.  
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.  
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

NIOSH approved, air-purifying organic vapor respirator.

#### Hand protection

**Material** : Nitrile rubber

**Remarks** : Impervious gloves Gloves should be discarded and replaced if there is any indication of degradation or chemical break-

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

- through. Request information on glove permeation properties from the glove supplier.
- Eye protection : Safety glasses with side-shields
- Skin and body protection : Wear suitable protective clothing.  
Chemical resistant apron  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.  
Appropriate techniques should be used to remove potentially contaminated clothing.  
Wash contaminated clothing before reusing.  
Ensure that eyewash stations and safety showers are close to the workstation location.

---

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : viscous
- Physical state : liquid
- Color : brown
- Odor : hydrocarbon-like
- Odor Threshold : No data available
- pH : substance/mixture is non-soluble (in water)
- Melting point/range : No data available
- Boiling point/boiling range : 599 °F / 315 °C
- Flash point : 428 °F / 220 °C  
Method: Cleveland open cup
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Self-ignition : No data available
- Upper explosion limit / Upper : No data available

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

flammability limit

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : 0.0013 hPa (68 °F / 20 °C)  
Calculated value

Relative vapor density : No data available

Relative density : No data available

Density : 0.98 g/cm<sup>3</sup> (68 °F / 20 °C)

Solubility(ies)  
Water solubility : insoluble

Partition coefficient: n-octanol/water : No data available

Ignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

---

### SECTION 10. STABILITY AND REACTIVITY

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is chemically stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.  
Incompatible with acids.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Strong acids and oxidizing agents

Hazardous decomposition products : No decomposition if stored normally.

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Not classified based on available information.

#### Components:

##### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes  
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.53 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: No information available.  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Remarks: Based on data from similar materials

##### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes  
Remarks: Test results on an analogous product
- Acute inhalation toxicity : LC50 (Rat): > 5.53 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes  
Remarks: Test results on an analogous product
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Remarks: Test results on an analogous product

##### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg



# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Method: OECD Test Guideline 401  
Remarks: Dosage caused no mortality

LD50 (Rat, male): > 16,000 mg/kg  
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 1.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OPP 81-3 Acute Inhalation Toxicity  
GLP: yes  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Dosage caused no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg  
Method: 40 CFR, Section 163.81-5, Federal Register, August 22, 1978 as modified in accordance with the revised EPA Pesticide Assessment Guidelines November 1982  
GLP: yes

### **Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:**

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Dosage caused no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 1.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OPP 81-3 Acute Inhalation Toxicity  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Dosage caused no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Dosage caused no mortality

### **Calcium Petroleum Sulfonate:**

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Remarks: No mortality observed at this dose.

Acute inhalation toxicity : LC50 (Rat, male and female): > 1.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OPP 81-3 Acute Inhalation Toxicity  
Assessment: The substance or mixture has no acute inhalation toxicity

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

tion toxicity  
Remarks: Dosage caused no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Dosage caused no mortality

### **Skin corrosion/irritation**

Not classified based on available information.

### **Components:**

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Species : Rabbit  
Exposure time : 24 h  
Result : No skin irritation  
GLP : yes  
Remarks : Based on data from similar materials

#### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species : Rabbit  
Method : Draize Test  
Result : No skin irritation  
GLP : yes  
Remarks : Test results on an analogous product

#### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : No skin irritation

#### **Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:**

Species : Rabbit  
Result : No skin irritation

#### **Calcium Petroleum Sulfonate:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

### **Serious eye damage/eye irritation**

Not classified based on available information.

# SAFETY DATA SHEET

## CALCINATE C-70



Version            Revision Date:            SDS Number:            Date of last issue: 03/02/2023  
3.0                07/20/2023                203000022561            Country / Language: US / EN

---

### Components:

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Species                : Rabbit  
Result                 : No eye irritation  
GLP                     : yes  
Remarks              : Based on data from similar materials

#### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species                : Rabbit  
Result                 : No eye irritation  
Method                : OECD Test Guideline 405  
GLP                     : yes  
Remarks              : Test results on an analogous product

#### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Species                : Rabbit  
Result                 : No eye irritation  
Method                : OECD Test Guideline 405  
GLP                     : yes

#### **Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:**

Species                : Rabbit  
Result                 : No eye irritation

#### **Calcium Petroleum Sulfonate:**

Species                : Rabbit  
Result                 : No eye irritation

### **Respiratory or skin sensitization**

#### **Skin sensitization**

May cause an allergic skin reaction.

#### **Respiratory sensitization**

Not classified based on available information.

### Components:

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Test Type             : Buehler Test  
Routes of exposure   : Skin contact  
Species                : Guinea pig  
Method                : OECD Test Guideline 406  
Result                 : Does not cause skin sensitization.  
GLP                     : yes

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Remarks : Based on data from similar materials

### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Test Type : Buehler Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Did not cause sensitization on laboratory animals.  
GLP : yes  
Remarks : Test results on an analogous product

### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Routes of exposure : Dermal  
Species : Guinea pig  
Result : The product is a skin sensitiser, sub-category 1B.

Test Type : Buehler Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : The product is a skin sensitiser, sub-category 1B.

### **Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:**

Test Type : Local lymph node assay (LLNA)  
Routes of exposure : Dermal  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : The product is a skin sensitiser, sub-category 1B.

### **Calcium Petroleum Sulfonate:**

Routes of exposure : Dermal  
Species : Guinea pig  
Result : The product is a skin sensitiser, sub-category 1B.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with metabolic activation  
Result: negative  
GLP: No information available.  
Remarks: Based on data from similar materials

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes  
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Result: negative  
GLP: no  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Species: Mouse (male and female)  
Cell type: Bone marrow  
Application Route: Intraperitoneal  
Method: OECD Test Guideline 474  
Result: negative  
GLP: No information available.  
Remarks: Based on data from similar materials

### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: TA98  
Metabolic activation: with metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: No information available.  
Remarks: Test results on an analogous product

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: no  
Remarks: Test results on an analogous product

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes  
Remarks: Test results on an analogous product

Test Type: In vitro mammalian cell gene mutation test

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: positive  
GLP: yes  
Remarks: Test results on an analogous product

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Cell type: Bone marrow  
Application Route: Intraperitoneal  
Method: OECD Test Guideline 474  
Result: negative  
GLP: No information available.  
Remarks: Test results on an analogous product

### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes  
Remarks: Test results on an analogous product

Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes  
Remarks: Test results on an analogous product

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse (male and female)  
Cell type: Bone marrow  
Application Route: Oral  
Result: negative  
GLP: yes

### **Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:**

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Bacteria  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

### Calcium Petroleum Sulfonate:

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Bacteria  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Test results on an analogous product

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Test results on an analogous product

### Carcinogenicity

Not classified based on available information.

### Components:

#### Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:

Species : Mouse, female  
Application Route : Dermal  
Exposure time : 78 weeks  
Frequency of Treatment : various  
Result : negative  
GLP : No information available.  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L)

#### Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species : Mouse, female  
Application Route : Dermal  
Exposure time : 18 month(s)  
Method : OECD Test Guideline 451  
Result : negative  
GLP : No information available.  
Remarks : Test results on an analogous product

Species : Mouse, male  
Application Route : Dermal

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Exposure time : 24 month(s)  
Method : OECD Test Guideline 453  
Result : positive  
GLP : No information available.  
Remarks : Test results on an analogous product

Carcinogenicity - Assessment : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L)

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

Not classified based on available information.

### Components:

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Fertility: NOAEL:  $\geq$  1,000 mg/kg bw/day  
Early Embryonic Development: NOAEL:  $\geq$  1,000 mg/kg bw/day  
Method: OECD Test Guideline 421  
GLP: yes  
Remarks: Based on data from similar materials

Effects on fetal development : Species: Rat, male and female  
Application Route: Oral  
General Toxicity Maternal: NOAEL:  $\geq$  5,000 mg/kg bw/day  
Developmental Toxicity: NOAEL:  $\geq$  5,000 mg/kg bw/day  
GLP: No information available.  
Remarks: Based on data from similar materials

#### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: Rat, male and female  
Application Route: Oral  
Dose: 0 - 1000 milligram per kilogram  
General Toxicity Parent: NOAEL:  $\geq$  1,000 mg/kg body weight  
Fertility: NOAEL:  $\geq$  1,000 mg/kg body weight  
Early Embryonic Development: NOAEL:  $\geq$  1,000 mg/kg body



# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

weight  
Method: OECD Test Guideline 421  
Result: Animal testing did not show any effects on fertility.  
GLP: yes  
Remarks: Test results on an analogous product

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat, female  
Application Route: Dermal  
Dose: 0 - 125 - 500 milligram per kilogram  
General Toxicity Maternal: NOAEL:  $\geq$  2,000 mg/kg body weight  
weight  
Teratogenicity: NOAEL:  $\geq$  2,000 mg/kg body weight  
Developmental Toxicity: NOAEL:  $\geq$  2,000 mg/kg body weight  
Embryo-fetal toxicity.: NOAEL:  $\geq$  2,000 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: negative  
GLP: No information available.  
Remarks: Test results on an analogous product

### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Duration of Single Treatment: 28 Days  
General Toxicity Parent: NOAEL:  $\geq$  500 mg/kg body weight  
Fertility: NOAEL:  $\geq$  500 mg/kg body weight  
Method: OECD Test Guideline 415  
GLP: yes  
Remarks: Test results on an analogous product

### **STOT-single exposure**

Not classified based on available information.

### **Product:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

### **Components:**

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Assessment : May cause respiratory irritation.

#### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Assessment : May cause respiratory irritation.

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

### STOT-repeated exposure

Not classified based on available information.

### Repeated dose toxicity

#### Components:

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Species : Rat, male  
LOAEL : 125 mg/kg  
Application Route : Oral  
Exposure time : 13 Weeks  
Number of exposures : 5 days/week  
Dose : 0, 125, 500 mg/kg bw/day  
GLP : No information available.  
Remarks : Based on data from similar materials

Species : Rat, male and female  
NOAEL :  $\geq 980$  mg/m<sup>3</sup>  
Application Route : Inhalation  
Exposure time : 4 Weeks  
Number of exposures : 6 hours/day, 5 days/week  
GLP : No information available.  
Remarks : Based on data from similar materials

Species : Rat, male and female  
NOAEL :  $\geq 2,000$  mg/kg  
Application Route : Dermal  
Exposure time : 13 Weeks  
Number of exposures : 5 days/week  
Method : OECD Test Guideline 411  
GLP : No information available.  
Remarks : Based on data from similar materials

#### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Species : Rat, male  
LOAEL : 125 mg/kg  
Application Route : Oral  
Exposure time : 90 d  
Number of exposures : 5 days/week  
Dose : 0 - 125 - 500 mg/kg bw/d  
Method : OECD Test Guideline 408  
GLP : No information available.  
Remarks : Subchronic toxicity  
Test results on an analogous product

Species : Rat, male and female  
NOAEC :  $\geq 1$  mg/l  
Application Route : inhalation (dust/mist/fume)

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Exposure time : 20 d  
Number of exposures : 6 hours/day  
Dose : 0 - 0.05 - 0,22  
Method : OECD Test Guideline 412  
GLP : No information available.  
Remarks : Subacute toxicity  
Test results on an analogous product

Species : Rat, male and female  
NOAEL : >= 2000 mg/kg  
Application Route : Skin contact  
Exposure time : 90 d  
Number of exposures : 5 days/week  
Dose : 0 - 2000 mg/kg bw/d  
Method : OECD Test Guideline 411  
GLP : No information available.  
Remarks : Subchronic toxicity  
Test results on an analogous product

### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Species : Rat, male and female  
NOAEL : 500 mg/kg  
Application Route : Oral  
Exposure time : 28 Days  
Number of exposures : daily  
Method : OECD Test Guideline 407  
GLP : yes  
Remarks : Test results on an analogous product

### **Aspiration toxicity**

Not classified based on available information.

---

## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### **Components:**

#### **Paraffin oils (petroleum), catalytic dewaxed heavy; Baseoil — unspecified:**

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Analytical monitoring: no  
GLP: No information available.  
Remarks: Based on data from similar materials (WAF)

Toxicity to algae/aquatic : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100

---

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

plants      mg/l  
End point: Growth rate  
Exposure time: 72 h  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: (WAF)

NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: (WAF)

Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): >= 1,000 mg/l  
End point: mortality  
Exposure time: 28 d  
Method: calculated  
GLP: no  
Remarks: The value is calculated

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEL (Daphnia magna (Water flea)): 10 mg/l  
End point: Reproduction  
Exposure time: 21 d  
GLP: yes  
Remarks: water extractable fraction

### Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: nominal concentration  
Test results on an analogous product  
water extractable fraction

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Analytical monitoring: no  
Method: OECD Test Guideline 202  
GLP: No information available.  
Remarks: nominal concentration  
Test results on an analogous product  
water extractable fraction

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

Exposure time: 72 h  
Analytical monitoring: no  
Method: OECD Test Guideline 201  
GLP: No information available.  
Remarks: nominal concentration  
Test results on an analogous product  
water extractable fraction

NOELR (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l  
Exposure time: 72 h  
Analytical monitoring: no  
Method: OECD Test Guideline 201  
GLP: No information available.  
Remarks: nominal concentration  
Test results on an analogous product  
water extractable fraction

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): 10 mg/l  
End point: Reproduction  
Exposure time: 21 d  
Analytical monitoring: no  
Method: OECD Test Guideline 211  
GLP: yes  
Remarks: nominal concentration  
Test results on an analogous product  
water extractable fraction

### **Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts:**

Toxicity to fish : LL50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l  
End point: mortality  
Exposure time: 96 h  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: water extractable fraction  
Test results on an analogous product

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1,000 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Analytical monitoring: yes  
Method: OPPTS 797.1300  
GLP: yes  
Remarks: water extractable fraction  
Test results on an analogous product

Toxicity to algae/aquatic : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

plants      mg/l  
End point: Growth rate  
Exposure time: 96 h  
Analytical monitoring: yes  
Method: OTS 797.1050 (Algal Toxicity, Tiers I and II)  
GLP: yes  
Remarks: water extractable fraction  
Test results on an analogous product

NOAEL (No observed adverse effect level) (Pseudokirchneriella subcapitata (green algae)):  $\geq 1,000$  mg/l  
End point: Growth rate  
Exposure time: 96 h  
Analytical monitoring: yes  
Method: OTS 797.1050 (Algal Toxicity, Tiers I and II)  
GLP: yes  
Remarks: water extractable fraction  
Test results on an analogous product

Toxicity to microorganisms      :      EC50 (activated sludge):  $> 10,000$  mg/l  
End point: Respiration inhibition  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: water extractable fraction

### **Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:**

Toxicity to fish      :      LL50 (Cyprinodon variegatus (sheepshead minnow)):  $> 10,000$  mg/l  
End point: mortality  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: water extractable fraction

Toxicity to daphnia and other aquatic invertebrates      :      EL50 (Daphnia magna (Water flea)):  $> 1,000$  mg/l  
End point: Immobilization  
Exposure time: 48 h  
Method: OPPTS 797.1300  
Remarks: water extractable fraction  
Test results on an analogous product

Toxicity to algae/aquatic plants      :      EL50 (Pseudokirchneriella subcapitata (microalgae)):  $> 1,000$  mg/l  
End point: Growth rate  
Exposure time: 96 h  
Method: OTS 797.1050 (Algal Toxicity, Tiers I and II)  
Remarks: water extractable fraction  
Test results on an analogous product

NOEC (Pseudokirchneriella subcapitata (microalgae)): 1,000

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

mg/l  
Exposure time: 96 h  
Method: OTS 797.1050 (Algal Toxicity, Tiers I and II)  
Remarks: water extractable fraction  
Test results on an analogous product

Toxicity to microorganisms : EC50 (activated sludge): > 10,000 mg/l  
End point: Respiration inhibition  
Exposure time: 3 h  
Method: OECD Test Guideline 209

### Calcium Petroleum Sulfonate:

Toxicity to fish : LL50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: water extractable fraction

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1,000 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Test Type: static test  
Method: OPPTS 797.1300  
Remarks: water extractable fraction

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l  
End point: Growth rate  
Exposure time: 96 h  
Method: OTS 797.1050 (Algal Toxicity, Tiers I and II)  
Remarks: Test results on an analogous product  
water extractable fraction

NOEC (Pseudokirchneriella subcapitata (green algae)): 1,000 mg/l  
End point: Growth rate  
Exposure time: 96 h  
Method: OTS 797.1050 (Algal Toxicity, Tiers I and II)  
Remarks: water extractable fraction  
Test results on an analogous product

Toxicity to microorganisms : EC50 (activated sludge): > 10,000 mg/l  
End point: Respiration inhibition  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: water extractable fraction





# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

### Bioaccumulative potential

#### Components:

##### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Partition coefficient: n-octanol/water : log Pow: > 3.90  
Method: Calculated value

### Mobility in soil

#### Components:

##### **Distillates (petroleum), solvent-dewaxed heavy paraffinic:**

Mobility : Remarks: The product is insoluble and floats on water.  
Known distribution to environmental compartments

### Other adverse effects

No data available

---

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Waste from residues : The generation of waste should be avoided or minimized wherever possible.  
This material and its container must be disposed of in a safe way.  
Empty containers retain product residue; observe all precautions for product.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.  
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

---

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **IATA-DGR**

Not regulated as a dangerous good

---

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

---

### IMDG-Code

Not regulated as a dangerous good

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

Not regulated as a dangerous good

### Hazard and Handling Notes.

Not dangerous cargo

Keep separated from foodstuffs

---

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Respiratory or skin sensitization

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

#### Massachusetts Right To Know

Paraffin oils (petroleum), catalytic dewaxed heavy;	64742-70-7	20 - 30
Baseoil — unspecified		
Crystalline Quartz Silica	14808-60-7	< 0.001

#### Pennsylvania Right To Know

Paraffin oils (petroleum), catalytic dewaxed heavy;	64742-70-7	20 - 30
Baseoil — unspecified		
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	20 - 30
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	10 - 20
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	70024-69-0	10 - 20
Calcium Petroleum Sulfonate	61789-86-4	10 - 20
calcium carbonate	471-34-1	> 1

# SAFETY DATA SHEET

## CALCINATE C-70



Version 3.0      Revision Date: 07/20/2023      SDS Number: 203000022561      Date of last issue: 03/02/2023  
Country / Language: US / EN

### California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

### TSCA inventory

TSCA : All substances listed as active on the TSCA inventory

### TSCA list

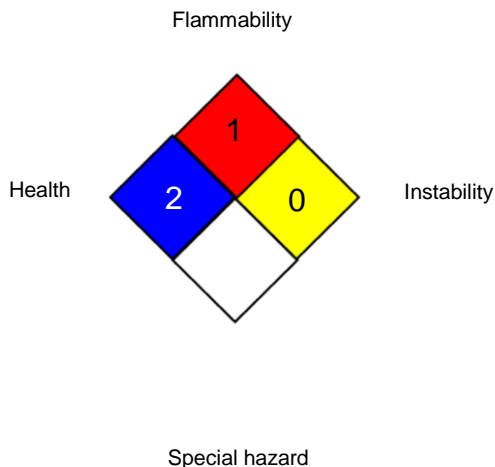
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA 704:



#### HMIS® IV:

HEALTH	/	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants  
ACGIH / TWA : 8-hour, time-weighted average  
OSHA Z-1 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German In-

# SAFETY DATA SHEET

## CALCINATE C-70



Version	Revision Date:	SDS Number:	Date of last issue: 03/02/2023
3.0	07/20/2023	203000022561	Country / Language: US / EN

---

stitute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 07/20/2023

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. 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 to be a guidance for processing and does not contain any 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. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.