

**SURFACE ACTIVATOR****1. Identification of the substance/preparation and the company**

- 1.1 Identification of the substance or preparation:**  
Productname: SURFACE ACTIVATOR
- 1.2 Use of the substance or the preparation:**  
Cleaner
- 1.3 Company/undertaking identification:**  
SODAL N.V.  
Everdongenlaan 18-20  
B-2300 Turnhout  
Tel. : +32 14 42 42 31  
Fax : +32 14 44 39 71  
e-mail address:msds@sodal.com
- 1.4 Emergency telephone:**  
+32 14 58 45 45 (24h/24h)  
Brandweerinformatiecentrum voor gevaarlijke stoffen (B.I.G.)  
Technische Schoolstraat 43 A, B-2440 Geel

**2. Composition/information on ingredients**

Hazardous ingredients	CAS No. EINECS No.	Conc. in %	Hazard symbol	Risks (R-phrases)
propan-2-ol	67-63-0 200-661-7	> 25	F;Xi	11-36-67 (1)
titanium tetraisopropanolate	546-68-9 208-909-6	< 20	Xi	10-36/37/38 (1)

(1) For R-phrases in full: see heading 16

**3. Hazards identification**

- Highly flammable
- Irritant to the eyes
- Vapours may cause drowsiness and dizziness

**4. First aid measures**

- 4.1 Eye contact:**  
- Rinse immediately with plenty of water  
- Seek medical advice
- 4.2 Skin contact:**  
- Wash immediately with lots of water  
- If irritation persists: seek medical advice
- 4.3 After inhalation:**  
- Remove the victim into fresh air  
- Seek medical advice
- 4.4 After ingestion:**  
- Never give water to an unconscious person  
- Do not induce vomiting  
- Seek medical advice

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Reference number : BIG\32156GB Revision number : 006  
Reason for revision : See 2

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## 5. Fire-fighting measures

### 5.1 Suitable extinguishing media:

- Water spray
- Polyvalent foam
- Alcohol-resistant foam
- BC powder
- Carbon dioxide

### 5.2 Unsuitable extinguishing media:

- Solid water jet ineffective as extinguishing medium

### 5.3 Special exposure hazards:

- On burning: release of carbon monoxide and carbon dioxide
- Gas/vapour spreads at floor level: ignition hazard

### 5.4 Instructions:

- Cool drums with water spray
- Do not move the load if exposed to heat

### 5.5 Special protective equipment for firefighters:

- Heat/fire exposure: compressed air/oxygen apparatus

## 6. Accidental release measures

### 6.1 Personal protection/precautions: see heading 8.2/13

### 6.2 Environmental precautions:

- Use appropriate containment to avoid environmental contamination

### 6.3 Clean-up:

- Take up liquid spill into absorbent material e.g.: dry sand/earth
- Take collected spill to competent authority
- Wash clothing and equipment after handling

## 7. Handling and storage

### 7.1 Handling:

- Observe strict hygiene
- In case of insufficient ventilation: keep naked flames/sparks away
- Do not discharge the waste into the drain

### 7.2 Storage:

- Keep container tightly closed
- Store in a cool area
- Store in a dry area
  
- Keep away from: heat sources, ignition sources, oxidizing agents, acids, bases, halogens

Storage temperature	:	Roomtemperature
Quantity limits	:	N.D.                      kg
Storage life	:	365                         days
Materials for packaging	:	
- suitable	:	tin

### 7.3 Specific uses:

- See information supplied by the manufacturer

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## 8. Exposure controls/Personal protection

### 8.1 Exposure limit values:

PROPAN-2-OL:

TLV-TWA	:	mg/m <sup>3</sup>	200	ppm	
TLV-STEL	:	mg/m <sup>3</sup>	400	ppm	
TLV-Ceiling	:	mg/m <sup>3</sup>	-	ppm	
WEL-LTEL	:	999	mg/m <sup>3</sup>	400	ppm
WEL-STEL	:	1250	mg/m <sup>3</sup>	500	ppm
TRGS 900	:	500	mg/m <sup>3</sup>	200	ppm
MAK	:	500	mg/m <sup>3</sup>	200	ppm
MAC-TGG 8 h	:	650	mg/m <sup>3</sup>		
MAC-TGG 15 min.	:		mg/m <sup>3</sup>		
MAC-Ceiling	:		mg/m <sup>3</sup>		
VME-8 h	:	-	mg/m <sup>3</sup>	-	ppm
VLE-15 min.	:	980	mg/m <sup>3</sup>	400	ppm
GWBB-8 h	:	997	mg/m <sup>3</sup>	400	ppm
GWK-15 min.	:	1248	mg/m <sup>3</sup>	500	ppm
Momentary value	:	-	mg/m <sup>3</sup>	-	ppm
EC	:		mg/m <sup>3</sup>		ppm
EC-STEL	:		mg/m <sup>3</sup>		ppm

### 8.2 Exposure controls:

#### 8.2.1 Occupational exposure controls:

- Use only in well ventilated area

#### 8.2.2 Environmental exposure controls: see heading 13

### 8.3 Personal protection:

#### 8.3.1 respiratory protection:

- In case of insufficient ventilation: respiratory protection with filtertype A

#### 8.3.2 hand protection:

- Gloves

suitable materials:

GIVE GOOD RESISTANCE:

Butyl rubber

Nitrile rubber

Viton

Neoprene

Chloroprene rubber

Chlorosulfonated polyethylene

Tetrafluoroethylene

#### 8.3.3 eye protection:

- Safety glasses

#### 8.3.4 skin protection:

- Heatproof clothing

suitable materials:

GIVE GOOD RESISTANCE:

Butyl rubber

Nitrile rubber

Viton

Neoprene

Chloroprene rubber

Chlorosulfonated polyethylene

Tetrafluoroethylene

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## 9. Physical and chemical properties

### 9.1 General information:

Appearance (at 20°C)	: Liquid
Odour	: Alcohol
Colour	: Colourless

### 9.2 Important health, safety and environmental information:

pH value	: N.D.	
Boiling point/boiling range	: > 82	°C
Flashpoint	: 12	°C
Explosion limits	: 2 - 12	Vol%
Vapour pressure (at 20°C)	: 43	hPa
Vapour pressure (at 50°C)	: 295	hPa
Relative density (at 20°C)	: 0.8	
Water solubility	: Soluble	
Soluble in	: Ether, chloroform	
Relative vapour density	: 2.1	
Viscosity (at 20°C)	: N.D.	Pa.s
Partition coefficient n-octanol/water	: N.D.	
Evaporation rate		
ratio to butyl acetate	: N.D.	
ratio to ether	: N.D.	

### 9.3 Other information:

Melting point/melting range	: N.D.	°C
Auto-ignition point	: N.D.	°C
Saturation concentration	: N.D.	g/m <sup>3</sup>

## 10. Stability and reactivity

### 10.1 Conditions to avoid/reactivity:

- Stable under normal conditions

### 10.2 Materials to avoid:

- Keep away from: heat sources, ignition sources, oxidizing agents, acids, bases, halogens

### 10.3 Hazardous decomposition products:

- On burning: release of carbon monoxide and carbon dioxide
- Violent to explosive reaction with (strong) oxidizers
- Reacts exothermically with (some) metals
- Prolonged storage/in large quantities: may form peroxides

## 11. Toxicological information

### 11.1 Acute toxicity:

PROPAN-2-OL:

LD50 oral rat	: 4710	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LD50 dermal rabbit	: 12870	mg/kg
LC50 inhalation rat	: > 20	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

TITANIUM TETRAISOPROPANOLATE:

LD50 oral rat	: 7460	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LD50 dermal rabbit	: N.D.	mg/kg
LC50 inhalation rat	: N.D.	mg/l/4 h
LC50 inhalation rat	: N.D.	ppm/4 h

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## 11.2 Chronic toxicity:

PROPAN-2-OL:

EC carc. cat. : not listed  
EC muta. cat. : not listed  
EC repr. cat. : not listed

Carcinogenicity (TLV) : (A4)  
Carcinogenicity (MAC) : not listed  
Carcinogenicity (VME) : not listed  
Carcinogenicity (GWBB) : not listed

Carcinogenicity (MAK) : not listed  
Mutagenicity (MAK) : not listed  
Teratogenicity (MAK) : group C

IARC classification : 3

11.3 Routes of exposure: ingestion, inhalation, eye and skin

## 11.4 Acute effects/symptoms:

### AFTER INHALATION:

EXPOSURE TO HIGH CONCENTRATIONS:

- Irritation of the respiratory tract
- Dry/sore throat
- CNS depression
- Dizziness
- Headache
- Narcosis

### AFTER INGESTION:

AFTER ABSORPTION OF HIGH QUANTITIES:

- CNS depression
- Disturbed motor response
- Headache
- Disturbances of consciousness
- Dilatation of the blood vessels
- Low arterial pressure
- Vomiting
- Nausea
- Abdominal pain
- Risk of aspiration pneumonia

FOLLOWING SYMPTOMS MAY APPEAR LATER:

- Body temperature fall
- Slowing respiration

### AFTER EYE CONTACT:

- Irritation of the eye tissue

## 11.5 Chronic effects:

- Contains substance with uncertain teratogenic properties (propan-2-ol)

ON CONTINUOUS EXPOSURE/CONTACT:

- Red skin
- Dry skin
- Itching
- Skin rash/inflammation
- Impaired memory
- Cracking of the skin

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## 12. Ecological information

### 12.1 Ecotoxicity:

#### PROPAN-2-OL:

- LC50 (96 h) : 9640 mg/l (PIMEPHALES PROMELAS)
- EC50 (48 h) : 13299 mg/l (DAPHNIA MAGNA)
- EC50 (72 h) : >1000 mg/l (SCENEDESMUS SUBSPICATUS)

### 12.2 Mobility:

- Volatile organic compounds (VOC): 100 %
- Insoluble in water

For other physicochemical properties see section 9

### 12.3 Persistence and degradability:

- biodegradation BOD<sub>5</sub> : N.D. % ThOD
- water : No data available
- soil : T ½ N.D. days

### 12.4 Bioaccumulative potential:

- log P<sub>ow</sub> : N.D.
- BCF : N.D.

### 12.5 Other adverse effects:

- WGK : 1 (classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)
- Effect on the ozone layer : Not dangerous for the ozone layer (1999/45/EC)
- Greenhouse effect : No data available
- Effect on waste water purification : No data available

## 13. Disposal considerations

### 13.1 Provisions relating to waste:

- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 14 06 03\* (other solvents and solvent mixtures)
- Hazardous waste (91/689/EEC)

### 13.2 Disposal methods:

- Do not discharge into surface water

### 13.3 Packaging:

- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10\* (packaging containing residues of or contaminated by dangerous substances)

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## 14. Transport information

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1993

### 14.1 Classification of the substance in compliance with UN Recommendations

UN number : 1993  
CLASS : 3  
SUB RISKS : -  
PACKING : II  
PROPER SHIPPING NAME :  
UN 1993, Flammable liquid, n.o.s., Special provision 640D (propan-2-ol)

### 14.2 ADR (transport by road)

CLASS : 3  
PACKING : II  
DANGER LABEL TANKS : 3  
DANGER LABEL PACKAGES : 3

### 14.3 RID (transport by rail)

CLASS : 3  
PACKING : II  
DANGER LABEL TANKS : 3  
DANGER LABEL PACKAGES : 3

### 14.4 ADNR (transport by inland waterways)

CLASS : 3  
PACKING : II  
DANGER LABEL TANKS : 3  
DANGER LABEL PACKAGES : 3

### 14.5 IMDG (maritime transport)

CLASS : 3  
SUB RISKS : -  
PACKING : II  
MFIAG : -  
EMS : F-E, S-E  
MARINE POLLUTANT : -

### 14.6 ICAO (air transport)

CLASS : 3  
SUB RISKS : -  
PACKING : II  
PACKING INSTRUCTIONS PASSENGER AIRCRAFT : 305/Y305  
PACKING INSTRUCTIONS CARGO AIRCRAFT : 307

### 14.7 Special precautions in connection with transport : None

### 14.8 Limited quantities (LQ) :

When substances and their packaging meet the conditions established by ADR/RID/ADNR in chapter 3.4, **only** the following prescriptions shall be complied with:

each package shall display a diamond-shaped figure with the following inscription:

- 'UN 1993'

or, in the case of different goods with different identification numbers within a single package:

- the letters 'LQ'

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## 15. Regulatory information

Labelling in accordance with directives 67/548/EEC and 1999/45/EC



Highly flammable



Irritant

- R36 : Irritant to the eyes  
R67 : Vapours may cause drowsiness and dizziness
- S(02) : (Keep out of reach of children)  
S07 : Keep container tightly closed  
S16 : Keep away from sources of ignition - No smoking  
S24/25 : Avoid contact with skin and eyes  
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice



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## 16. Other information

De informatie in dit veiligheidsblad werd opgesteld naar best vermogen, en geeft de stand van kennis weer op het ogenblik van publicatie. 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 as 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 material or in any process, unless specified in the text.

**N.A.** = NOT APPLICABLE  
**N.D.** = NOT DETERMINED  
**\*** = INTERNAL CLASSIFICATION

### Exposure limits:

**TLV** : Threshold Limit Value - ACGIH USA  
**OES** : Occupational Exposure Standards - United Kingdom  
**MEL** : Maximum Exposure Limits - United Kingdom  
**MAK** : Maximale Arbeitsplatzkonzentrationen - Germany  
**TRK** : Technische Richtkonzentrationen - Germany  
**MAC** : Maximale aanvaarde concentratie - The Netherlands  
**VME** : Valeurs limites de Moyenne d'Exposition - France  
**VLE** : Valeurs Limites d'Exposition à court terme - France  
**GWBB** : Grenswaarde beroepsmatige blootstelling - Belgium  
**GWK** : Grenswaarde kortstondige blootstelling - Belgium  
**EC** : Indicative occupational exposure limit values - Directive 2000/39/EC

**I** : Inhalable fraction = **T** : Total dust = **E** : Einatembarer Aerosolanteil  
**R** : Respirable fraction = **A** : Alveolengängiger Aerosolanteil/Alveolar dust  
**C** : Ceiling limit

<b>a:</b>	aerosol	<b>r:</b>	rook/Rauch	(fume)
<b>d:</b>	damp (vapour)	<b>st:</b>	stof/Staub	(dust)
<b>du:</b>	dust	<b>ve:</b>	vezel	(fibre)
<b>fa:</b>	Faser (fibre)	<b>va:</b>	vapour	
<b>fi:</b>	fibre	<b>om:</b>	oil mist	
<b>fu:</b>	fume	<b>on:</b>	olienevel/Ölnebel	(oil mist)
<b>p:</b>	poussière (dust)	<b>part:</b>	particles	

### Chronic toxicity:

**K:** List of the carcinogenic substances and processes - The Netherlands 2000

### Full text of any R-phrases referred to under heading 2:

R10 : Flammable  
R11 : Highly flammable  
R36 : Irritant to the eyes  
R36/37/38 : Irritating to eyes, respiratory system and skin  
R67 : Vapours may cause drowsiness and dizziness