

**Trade name:** DUALENE™ 1601 S Metal Cleaning Solvent

**Current version :** 2.0.0, issued: 11.03.2020

**Replaced version:** 1.0.0, issued: 05.03.2020

**Region:** USA

**SECTION 1: Identification**
**1.1 Product identifier**

Trade name

**DUALENE™ 1601 S Metal Cleaning Solvent**
**1.2 Recommended use of the chemical and restrictions on use**
**Recommended use of the chemical and restrictions on use**

Industrial Solvent

**Restrictions on use**

Uses which are not mentioned in the relevant identified uses.

**1.3 Details of the supplier of the safety data sheet**
**Address**

SAFECHEM Europe GmbH

Tersteegenstr. 25

40474 Düsseldorf

Germany

Telephone no. +49 211 4389300

Fax no. +49 211 4389389

e-mail service@safecchem.com

**1.4 Emergency phone number**

+1 202 464 2554 (NCEC, National Chemical Emergency Centre)

+1 866 928 0789 (Toll free)

**SECTION 2: Hazard(s) identification**
**2.1 Classification of the chemical**
**Classification of the chemical in accordance with paragraph (d) of 29 CFR § 1910.1200 "Hazard Communication"**

Eye Irritation - Category 2A

Flammable Liquids - Category 4

Skin Corrosion / Irritation - Category 2

**2.2 Label elements**
**Pictogram(s)**

**Signal word**

Warning

**Hazard Statement(s)**

Physical hazards

Combustible liquid

Health hazards

Causes skin irritation

Causes serious eye irritation

**Precautionary Statement(s)**

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin: Wash with plenty of water and soap.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see first aid instruction on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

 In case of fire: Use carbon dioxide (CO<sub>2</sub>), alcohol resistant foam, extinguishing powder, water mist to extinguish.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container to a facility in accordance with local and national regulations.

**2.4 Hazards not otherwise classified (HNOC)**

No data available

**SECTION 3: Composition / information on ingredients**

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**3.1 Substances**

Not applicable. The product is not a substance.

**3.2 Mixtures****Hazardous ingredients**

No	Substance name	Concentration		%
	CAS no.			
1	<b>3-butoxypropan-2-ol</b>			
	5131-66-8	>= 70.00	- < 90.00	%-b.w.
2	<b>Butoxy-1-propanol</b>			
	15821-83-7	< 5.00		%-b.w.

**3.3 Other information**

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of 29 CFR 1910.1200

**SECTION 4: First-aid measures****4.1 Description of necessary first-aid measures****General information**

Adhere to personal protective measures when giving first aid. If the patient is likely to become unconscious, place and transport in stable sideways position. In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

**After inhalation**

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air.

**After skin contact**

In case of contact with skin wash off immediately with plenty of water.

**After eye contact**

Remove contact lens. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

**After ingestion**

Rinse mouth thoroughly with water. Do not induce vomiting without medical advice. Call a doctor immediately. Never give anything by mouth to an unconscious person.

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

Skin irritation; Eye irritation

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

Treat symptomatically.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Water spray jet; Carbon dioxide; Foam; Preferably use alcohol resistant foam (e. g. type ATC), where available. Synthetic multi application foam (including AFFF) or protein based foams may be used too; however, these foams are of significantly lower efficiency for firefighting. Dry chemical extinguisher

**Unsuitable extinguishing media**

Full water jet

**5.2 Specific hazards arising from the chemical**In the event of fire, the following can be released: Carbon dioxide (CO<sub>2</sub>); Carbon monoxide (CO)**5.3 Special protective equipment and precautions for fire-fighters**

Use self-contained breathing apparatus. Wear protective clothing. Product floats on the water surface and may reignite.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Only engage trained and adequately protected personnel. Refer to protective measures listed in sections 7 and 8. Do not inhale vapours. Keep away from ignition sources.

**For emergency responders**

Personal protective equipment (PPE) - see Section 8.

**6.2 Methods and materials for containment and cleaning up**

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Prevent spread over a wide area (by containment with sand or earth). Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in suitable container for disposal.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Precautions for safe handling

Risks inherent to handling the product must be minimised by applying appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances. Provide good ventilation of working area (local exhaust ventilation if necessary).

#### General protective and hygiene measures

Do not inhale vapours. Do not eat, drink or smoke during work time. After worktime and during work intervals the affected skin areas must be thoroughly cleaned. Keep away from foodstuffs and beverages. Avoid contact with eyes and skin. Provide eye wash fountain in work area.

#### Advice on protection against fire and explosion

Keep away from sources of heat and ignition.

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

#### Technical measures and storage conditions

Keep container tightly closed in a cool, well-ventilated place. Protect from heat and direct sunlight.

#### Requirements for storage rooms and vessels

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Appropriate Material carbon steel; stainless steel

Inappropriate material aluminium

#### Incompatible products

Substances to be avoided: see chapter 10.

## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

No parameters available for monitoring.

### 8.2 Exposure controls

#### Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational ExposureLimit), suitable respiratory protection must be worn.

#### Individual protection measures, such as personal protective equipment

##### Respiratory protection

In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified. Wear appropriate, properly fitting OSHA, MSHA or NIOSH approved respirator, in dusty environments and where airborne concentrations are expected to exceed exposure limits indicated in this MSDS.

##### Eye / face protection

Wear appropriate protective eye glasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

##### Hand protection

Sufficient protection is given wearing suitable protective gloves in the event of risk of skin contact with the product. Before use, the protective glove should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material	butyl rubber		
Appropriate Material	chlorinated polyethylene (CPE)		
Appropriate Material	Polyethylene		
Appropriate Material	ethyl vinyl alcohol laminate (EVAL)		
Appropriate Material	In case of short-term contact / splash protection:		
Material thickness	>	0.35	mm
Breakthrough time	>	10	min
Appropriate Material	In case of longer-term contact:		
Material thickness	>	0.35	mm
Breakthrough time	>	120	min

##### Other protection measures

Chemical-resistant work clothes.

## SECTION 9: Physical and chemical properties

### Form/Color

liquid

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colorless	
<b>Odor</b>	
characteristic	
<b>Odor threshold</b>	
No data available	
<b>pH value</b>	
No data available	
<b>Boiling point / boiling range</b>	
Value	170 - 175 °C
Source	supplier
<b>Melting point / melting range</b>	
No data available	
<b>Setting point / solidification range</b>	
Value	-75 °C
Source	supplier
<b>Decomposition point / decomposition range</b>	
No data available	
<b>Flash point</b>	
Value	63 °C
Method	ASTM D 93
Source	supplier
<b>Auto-ignition temperature</b>	
Value	242 °C
Source	supplier
<b>Oxidising properties</b>	
not oxidizing	
<b>Explosive properties</b>	
Product does not present an explosion hazard.	
<b>Flammability (solid, gas)</b>	
No data available	
<b>Lower flammability or explosive limits</b>	
Value	1.1 % vol
Source	supplier
<b>Upper flammability or explosive limits</b>	
Value	8.4 % vol
Source	supplier
<b>Vapor pressure</b>	
Value	0.11 kPa
Source	supplier
<b>Vapor density</b>	
No data available	
<b>Evaporation rate</b>	
No data available	
<b>Relative density</b>	
Value	0.88
Reference temperature	25 °C
Source	supplier
<b>Density</b>	
No data available	
<b>Solubility in water</b>	
Value	6.3 %
Source	supplier
<b>Solubility(ies)</b>	
No data available	
<b>Partition coefficient: n-octanol/water</b>	
No data available	
<b>Viscosity</b>	

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Value	3.85	mm <sup>2</sup> /s
Reference temperature	20	°C
Type	kinematic	
Source	supplier	

## Other information

<b>Other information</b>
No data available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

### 10.2 Chemical stability

Stable under recommended storage and handling conditions(See section 7).

### 10.3 Possibility of hazardous reactions

Dangerous reactions are not expecting handling the product according to its intended use.

### 10.4 Conditions to avoid

Hazard of decomposition at higher temperatures. Protect from heat and direct sunlight.

### 10.5 Incompatible materials

strong acids; strong oxidising agents

### 10.6 Hazardous decomposition products

None, if handled according to intended use.

## SECTION 11: Toxicological information

### Information on toxicological effects

<b>Acute oral toxicity</b>
No data available

<b>Acute dermal toxicity</b>
No data available

<b>Acute inhalational toxicity</b>
No data available

<b>Skin corrosion/irritation</b>		
<b>No</b>	<b>Substance name</b>	<b>CAS no.</b>
1	3-butoxypropan-2-ol	5131-66-8
Species	rabbit	
Method	OECD 404	
Source	ECHA	
Evaluation	irritant	

<b>Serious eye damage/irritation</b>		
<b>No</b>	<b>Substance name</b>	<b>CAS no.</b>
1	3-butoxypropan-2-ol	5131-66-8
Species	rabbit	
Method	OECD 405	
Source	ECHA	
Evaluation	Irritating to eyes	

<b>Respiratory or skin sensitisation</b>
No data available

<b>Germ cell mutagenicity</b>
No data available

<b>Reproduction toxicity</b>
No data available

<b>Carcinogenicity</b>
No data available

<b>NTP Report on Carcinogens (RoC)</b>
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) listed "known" (to be a human carcinogen) or "RAHC" (reasonably anticipated to be a human carcinogen).

<b>OSHA Standards listing cancer as a health effect (Table VII.6.2)</b>
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According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) listed as carcinogenic.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) classified by the IARC Monographs.

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Aspiration hazard**

No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

**Toxicity to fish (acute)**

No data available

**Toxicity to fish (chronic)**

No data available

**Toxicity to Daphnia (acute)**

No data available

**Toxicity to Daphnia (chronic)**

No data available

**Toxicity to algae (acute)**

No data available

**Toxicity to algae (chronic)**

No data available

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.6 Other adverse effects

No data available.

### 12.7 Other information

**Other information**

Do not discharge product unmonitored into the environment.

## SECTION 13: Disposal considerations

### 13.1 Disposal considerations

**Product**

Dispose in accordance with federal, state and local regulations.

**Packaging**

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in accordance with federal, state and local regulations.

## SECTION 14: Transport information

### 14.1 US DOT (Department of Transportation)

Transport hazard class	Comb liq
Packaging group	III
UN/NA number	NA1993
UN proper shipping name	Combustible liquid, n.o.s.
Remark(s)	According to 49 CFR 173.150 the product is not subject to the provisions for combustible liquids when transported in a non-bulk packaging with a maximum capacity of 450 L (119 gallons) or less.

### 14.2 Transport IMDG

The product is not subject to IMDG regulations.

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**14.3 Transport ICAO-TI / IATA**

The product is not subject to ICAO-TI / IATA regulations.

**14.4 Other information**

No data available.

**14.5 Environmental hazards**

Information on environmental hazards, if relevant, pls. see 14.1 - 14.3.

**14.6 Special precautions for user**

No data available.

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

Not relevant

**SECTION 15: Regulatory information****15.1 US Federal Regulations****Toxic Substances Control Act (TSCA)**

According to the data available and/or specifications supplied by upstream suppliers, all components of this product are on the TSCA Inventory or are exempted from notification requirements.

**CERCLA (Comprehensive Environmental Response, Compensation and Liability Act)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being subject to Table 302.4 "List of Hazardous Substances and Reportable Quantities".

**Clean Air Act (CAA): Hazardous Air Pollutants (HAPS)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Air Pollutants".

**Clean Water Act (CWA) Section 307 (Toxic Pollutants) and Section 311 (Hazardous Substances)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Substances".

**EPCRA SARA Section 313, Toxic Chemical Release Inventory**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being subject to "SARA Reporting".

**Emergency Planning & Community Right-to-Know Act (EPCRA) - Sections 302 and 304**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being subject to reporting requirements.

**Clean Air Act (CAA) - Section 602 Ozone depleting substances**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) listed as ozone depleting substance.

**15.2 US State Regulations****Pennsylvania State Right to Know Hazardous Substance List**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Substances".

**New Jersey State Right to Know Hazardous Substance List**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Substances".

**Massachusetts State Right to Know Hazardous Substance List**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Substances".

**Right to Know - California State - Proposition 65**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Substances".

**SECTION 16: Other information, including date of preparation or last revision****16.1 Other information**

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**16.2 Date of preparation/revision of the SDS**

Current version	2.0.0	11.03.2020
Replaced version	1.0.0	05.03.2020

**16.3 Department issuing safety data sheet**

UMCO GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 187, Tel.: +49(40)555 546 300, Fax: +49(40)555 546 357, e-mail:

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umco@umco.de

## 16.4 Conclusions

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not, however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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## 16.5 Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists

ATE – Acute Toxicity Estimate

BOD - Biochemical Oxygen Demand

CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania

CAS - Chemical Abstracts Service

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

CFR - Code of Federal Regulations (US)

CLP - Classification, Labelling, and Packaging

DOT - Department of Transportation Commission

ECHA – European Chemicals Agency

EC / EL – Effective Concentration / Effective Loading

EPA - Environmental Protection Agency

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC – Intermediate Bulk Container

ICAO - International Civil Aviation Organization

IDL - Ingredient Disclosure List

IDLH - Immediately Dangerous to Life and Health

IMDG - International Maritime Dangerous Goods

IUCLID - International Uniform Chemical Information Database

Kow - Octanol/water partition coefficient

LD/LC - Lethal Dose/ Lethal Concentration

MARPOL – Marine Pollution

MEL - Maximum Exposure Limits

NFPA - National Fire Protection Agency

NIOSH - National Institute for Occupational Safety and Health

NJTSSR - New Jersey Trade Secret Registry

NOEL/NOEC – No Observed Effect Level / No Observed Effect Concentration

NTP - National Toxicology Program

OSHA - Occupational Safety and Health Administration

PEL- Permissible Exposure Limit

RCRA - Resource Conservation and Recovery Act

SARA - Superfund Amendments and Reauthorization Act

STEL - Short-term Exposure Limit

STOT – Specific Target Organ Toxicity

TDG - Transportation of Dangerous Goods

TLV - Threshold Limit Value

TSCA - Toxic Substances Control Act

TWA - Time Weighted Average

UN/NA - United Nations /North American

US - United States

VLE - Exposure Limit Value (Mexico)

VOC – Volatile Organic Compounds