

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 12/16/2014 Revision date: 10/21/2025 Supersedes version of: 3/14/2008 Version: 4.0

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixture
Product name : HCF® Black

Product code : 30103, 305C16, 354C16

Product group : Trade product UFI : Add UFI

## 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Coating

### 1.2.2. Uses advised against

No additional information available

### .3. Details of the supplier of the safety data sheet

ManufacturerDistributorEU Importer of RecordPlasti Dip International, Inc.Global ExpressInfo needed

3920 Pheasant Ridge Drive 7 Indian Path
Blaine, MN 55449 Millstone, NJ 08535
Phone - (763) 785-2156 (732) 977-0605

## 1.4. Emergency telephone number

Manufacturer Emergency number Distributor Emergency number Importer Emergency number

CHEMTREC: 1-800-424-9300 (US); CHEMTREC: 1-800-424-9300 (US); +1 703-741-5970 (International) +1 703-741-5970 (International)

## **SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carcinogenicity Category 2 H351

Full text of H- and EUH-statements: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) : Warning

Hazard statements (CLP) : H351 - Suspected of causing cancer.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.

 $\mbox{\sc P202}$  -  $\mbox{\sc Do}$  not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing

protection.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in

10/21/2025 (Revision date) HCF® Black 1/36

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## **SECTION 3: Composition/Information on ingredients**

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Butyl cellosolve	CAS-No.: 111-76-2 EC-No.: 203-905-0 EC Index-No.: 603-014-00-0	3 – 7	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Carbon black	CAS-No.: 1333-86-4 EC-No.: 215-609-9	1 – 5	Carc. 2, H351 STOT RE 1, H372

Full text of H- and EUH-statements: see section 16

## **SECTION 4: First Aid measures**

## 4.1. Description of first aid measures

First-aid measures after inhalation

First-aid measures after skin contact

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.

: IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention immediately.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact

lenses if present and easy to do so. Continue rinsing. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from

poison control center. Get medical attention if you feel unwell.

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

Symptoms/effects : Suspected of causing cancer.

Symptoms/effects after inhalation : May cause minor respiratory irritation.

Symptoms/effects after skin contact : May cause minor skin irritation.

Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/effects after ingestion : May cause gastrointestinal irritation. Chronic symptoms : Suspected of causing cancer.

## 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

10/21/2025 (Revision date) HCF® Black 2/36

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Foam. Dry chemical.

## 5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid.
Explosion hazard : Product is not explosive.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any

chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion. Avoid contact with sprayed

water - material slippery when wet.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Self-contained breathing apparatus.

Other information : Material can splatter above 100 °C / 212 °F.

## **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained cleaning

personnel properly equipped with respiratory and eye protection.

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air

respirator, in case of emergency.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

## 6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or

streams. Prevent entry to sewers and public waters.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

This material and its container must be disposed of in a safe way, and as per local

legislation.

### 6.4. Reference to other sections

No additional information available

## **SECTION 7: Handling and storage**

### 7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Do not handle

until all safety precautions have been read and understood. Use only in well-ventilated areas. Do not breathe mist, vapors. Avoid contact with skin and eyes. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when

leaving work.

10/21/2025 (Revision date) HCF® Black 3/36

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

Storage conditions

: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep from freezing.

## 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

## 8.1.1. National occupational exposure and biological limit values

Ammonium hydroxide (1336-21-6)	
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	14 mg/m³
	20 ppm
HTP (OEL STEL)	36 mg/m³
	50 ppm
USA - ACGIH - Occupational Exposure Limits	
Remark (ACGIH®)	OELs not established
Butyl cellosolve (111-76-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	98 mg/m³
	20 ppm
IOEL STEL	246 mg/m³
	50 ppm
Remark	Possibility of significant uptake through the skin
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	98 mg/m³
	20 ppm
MAK (OEL STEL)	200 mg/m³
	40 ppm
OEL chemical category	skin notation
Belgium - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	Skin, skin notation
Bulgaria - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm

# Safety Data Sheet

251 0751	
OEL STEL	246 mg/m³
	50 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	98 mg/m³
	20 ppm
KGVI (OEL STEL)	246 mg/m³
	50 ppm
OEL chemical category	skin notation
Cyprus - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	Skin-potential for cutaneous absorption
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	100 mg/m³
OEL chemical category	Potential for cutaneous absorption
Czech Republic - Biological limit values	
BLV	200 mg/g Kreatinin Parameter: Butoxyacetic acid - Medium: urine - Sampling time: end of shift at end of workweek (after hydrolysis) 0.17 mmol/mmol Creatinine Parameter: Butoxyacetic acid - Medium: urine - Sampling time: end of shift at end of workweek (after hydrolysis)
Denmark - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	skin notation, Sensitizer
Finland - Occupational Exposure Limits	•
HTP (OEL TWA)	98 mg/m³
	20 ppm
HTP (OEL STEL)	250 mg/m³
	50 ppm
OEL chemical category	Potential for cutaneous absorption

# Safety Data Sheet

Butyl cellosolve (111-76-2)	
France - Occupational Exposure Limits	
VME (OEL TWA)	49 mg/m³ (restrictive limit)
	10 ppm (restrictive limit)
VLE (OEL C/STEL)	246 mg/m³ (restrictive limit)
	50 ppm (restrictive limit)
OEL chemical category	Risk of cutaneous absorption
Germany - Occupational Exposure Limits (TRG	S 900)
AGW (OEL TWA)	49 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Chemical category	skin notation
Germany - Biological limit values (TRGS 903)	
Biological limit value	150 mg/g Kreatinin Parameter: Butoxyacetic acid (after hydrolysis) - Medium: urine - Sampling time: for long-term exposures: at the end of the shift after several shifts 150 mg/g Kreatinin Parameter: Butoxyacetic acid (after hydrolysis) - Medium: urine - Sampling time: end of shift
Gibraltar - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	skin notation
Greece - Occupational Exposure Limits	
OEL TWA	120 mg/m³
	25 ppm
OEL chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	98 mg/m³
CK (OEL STEL)	246 mg/m³
OEL chemical category	Potential for cutaneous absorption
Ireland - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³

# Safety Data Sheet

S0 ppm   S8 mg/m²   S0 ppm	Butyl cellosolve (111-76-2)	
Latvia - Occupational Exposure Limits  OEL TWA  98 mg/m² 20 ppm  OEL chemical category skin - potential for cutaneous exposure  Lithuania - Occupational Exposure Limits  IPRV (OEL TWA) 50 mg/m² 10 ppm  TPRV (OEL STEL) 100 mg/m² 20 ppm  OEL chemical category skin notation  Luxembourg - Occupational Exposure Limits  OEL TWA 98 mg/m² 20 ppm  OEL STEL 246 mg/m² 50 ppm  OEL strell a category possibility of significant uptake through the skin  Maita - Occupational Exposure Limits  OEL STEL 246 mg/m² 50 ppm  OEL chemical category Possibility of significant uptake through the skin  Maita - Occupational Exposure Limits  TGG-8u (OEL TWA) 100 mg/m² 20 4 ppm  TGG-15min (OEL STEL) 246 mg/m² 50 ppm  MAC chemical category possibility of significant uptake through the skin  Notherlands - Occupational Exposure Limits  TGG-8u (OEL TWA) 100 mg/m² 20 4 ppm  TGG-15min (OEL STEL) 246 mg/m² 50 ppm  MAC chemical category possibility of significant uptake through the skin  Notherlands - Occupational Exposure Limits  TGG-15min (OEL STEL) 246 mg/m² 50 ppm  MAC chemical category possibility of significant uptake through the skin  Notherlands - Occupational Exposure Limits  DG ppm  MAC chemical category possibility of significant uptake through the skin  Notherlands - Occupational Exposure Limits  Significant uptake through the skin  Notherlands - Occupational Exposure Limits  DG ppm  MAC chemical category possibility of significant uptake through the skin  DG ppm  MAC chemical category possibility of significant uptake through the skin  DG ppm  Maccoupational Exposure Limits  DG ppm  Maccoupa		50 ppm
OEL chemical calegory         skin - potential for cutaneous exposure           Lithuania - Occupational Exposure Limits         50 mg/m³           IPRY (OEL TWA)         50 mg/m³           10 ppm         100 mg/m³           20 ppm         OEL chemical category           Lithuania - Occupational Exposure Limits         20 ppm           OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits         28 mg/m³           OEL TWA         98 mg/m³           20 ppm         246 mg/m³           50 ppm         Possibility of significant uptake through the skin           Maita - Occupational Exposure Limits         Very pm           OEL STEL         246 mg/m³           20 ppm         Possibility of significant uptake through the skin           OEL STEL         246 mg/m³           OEL chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         Very pm           OEL chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         Very pm           TGG-15min (OEL STEL)         246 mg/m²           50 ppm         Skin notation           Poland - Occupational Exposure Limits         Very	OEL chemical category	skin - potential for cutaneous absorption
20 ppm	Latvia - Occupational Exposure Limits	
OEL chemical category         skin - potential for cutaneous exposure           Lithuania - Occupational Exposure Limits         50 mg/m³           IPRV (OEL TWA)         50 mg/m³           100 mg/m³         100 mg/m³           20 ppm         20 ppm           OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits         98 mg/m³           20 ppm         20 ppm           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         60 ppm           OEL Chemical category         Possibility of significant uptake through the skin           Matta - Occupational Exposure Limits         50 ppm           OEL STEL         246 mg/m³           20 ppm         50 ppm           OEL Chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         50 ppm           Netherlands - Occupational Exposure Limits         70 ppm           TGG-15min (OEL STEL)         100 mg/m²           AQ ppm         70 ppm           MAC chemical category         100 mg/m²           Poland - Occupational Exposure Limits         70 ppm           Portugal - Occupational	OEL TWA	98 mg/m³
Lithuania - Occupational Exposure Limits         50 mg/m²           IPRV (OEL STEL)         100 mg/m²           OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits         98 mg/m²           OEL TWA         98 mg/m²           OEL STEL         246 mg/m²           50 ppm         90 pm           OEL chemical category         Possibility of significant uptake through the skin           Matta - Occupational Exposure Limits         98 mg/m²           OEL TWA         98 mg/m²           20 ppm         90 ppm           OEL STEL         246 mg/m²           50 ppm         90 ppm           OEL Aberlical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         90 ppm           OEL Chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         20.4 ppm           TGG-8u (OEL TWA)         100 mg/m²           20.4 ppm         20.4 ppm           TGG-15min (OEL STEL)         246 mg/m²           MAC chemical category         skin notation           Poland - Occupational Exposure Limits         98 mg/m²           NDS (OEL TWA)         98 mg/m² <td></td> <td>20 ppm</td>		20 ppm
PFW (OEL TWA)	OEL chemical category	skin - potential for cutaneous exposure
TPRV (OEL STEL)         100 mg/m³           OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits           OEL TWA         98 mg/m³           QB mg/m³           OEL STEL         246 mg/m³           OEL chemical category         Possibility of significant uptake through the skin           Matta - Occupational Exposure Limits           OEL STEL         98 mg/m³           QB mg/m³           OEL STEL         246 mg/m³           OEL STEL         246 mg/m³           OEL Chemical category         Possibility of significant uptake through the skin           Notherlands - Occupational Exposure Limits           Note of Chemical category         Possibility of significant uptake through the skin           Not material Exposure Limits           Not mg/m³           OP mg/m³           OP mg/m³           OP pom           MAC chemical category         98 mg/m³           OP pom           MAC chemical category         98 mg/m³           OP pom mg/m³           NOS (OEL TWA) <td>Lithuania - Occupational Exposure Limits</td> <td></td>	Lithuania - Occupational Exposure Limits	
TPRV (OEL STEL)         100 mg/m³           20 ppm           OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits         98 mg/m³           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         50 ppm           OEL chemical category         possibility of significant uptake through the skin           Matta - Occupational Exposure Limits           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         0           OEL chemical category         Possibility of significant uptake through the skin           Neteriands - Occupational Exposure Limits           TGG-8u (OEL TWA)         100 mg/m³           OPL Apm	IPRV (OEL TWA)	50 mg/m³
OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits         98 mg/m³           OEL TWA         98 mg/m³           0EL STEL         246 mg/m³           OEL chemical category         Possibility of significant uptake through the skin           Malta - Occupational Exposure Limits         98 mg/m³           OEL TWA         98 mg/m³           0EL chemical category         Possibility of significant uptake through the skin           OEL STEL         246 mg/m³           0EL chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         100 mg/m³           TGG-9-8u (OEL TWA)         100 mg/m³           20-4 ppm         246 mg/m³           50 ppm         300 ppm           MAC chemical category         pom           MAC chemical category         pom           Poland - Occupational Exposure Limits         50 ppm           NDS (OEL TWA)         98 mg/m³           NDS (OEL TWA)         98 mg/m³ (indicative limit value)           Portugal - Occupational Exposure Limits         200 mg/m³           OEL TWA         98 mg/m³ (indicative limit value)           OEL TWA         20 ppm (indicative limit value)		10 ppm
OEL chemical category         skin notation           Luxembourg - Occupational Exposure Limits           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         50 ppm           OEL chemical category         Possibility of significant uptake through the skin           Matta - Occupational Exposure Limits         98 mg/m³           OEL TWA         98 mg/m³           0EL STEL         246 mg/m³           0EL chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits         TGG-8u (OEL TWA)           17GG-96 (OEL TWA)         100 mg/m³           20.4 ppm         20.4 ppm           TGG-15min (OEL STEL)         246 mg/m³           MAC chemical category         skin notation           Poland - Occupational Exposure Limits           NDS (OEL TWA)         98 mg/m³           NDS (OEL STEL)         200 mg/m³           Portugal - Occupational Exposure Limits         200 mg/m³           Portugal - Occupational Exposure Limits         200 mg/m³ (indicative limit value)           OEL TWA         20 ppm (indicative limit value)	TPRV (OEL STEL)	100 mg/m³
Luxembourg - Occupational Exposure Limits       OEL TWA     98 mg/m³       20 ppm     246 mg/m³       50 ppm     60 ppm       OEL STEL     246 mg/m³       50 ppm     Possibility of significant uptake through the skin       Malta - Occupational Exposure Limits       OEL TWA     98 mg/m³       20 ppm     246 mg/m³       50 ppm     60 ppm       OEL chemical category     Possibility of significant uptake through the skin       Netherlands - Occupational Exposure Limits       TGG-8u (OEL TWA)     100 mg/m³       20.4 ppm     246 mg/m³       50 ppm     246 mg/m³       MAC chemical category     skin notation       Poland - Occupational Exposure Limits       NDS (OEL TWA)     98 mg/m³       NDS (OEL STEL)     200 mg/m³       Portugal - Occupational Exposure Limits       Occupational Exposure Limits       Octupational Exposure Limits       OEL TWA     98 mg/m³ (indicative limit value)       OEL TWA     20 ppm (indicative limit value)       OEL TWA     246 mg/m³ (indicative limit value)		20 ppm
OEL TWA         98 mg/m³           20 ppm           OEL STEL         246 mg/m³           60 ppm           OEL chemical category         Possibility of significant uptake through the skin           Malta - Occupational Exposure Limits           OEL TWA         98 mg/m³           20 ppm           OEL STEL         246 mg/m³           50 ppm           OEL chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits           TGG-8u (OEL TWA)         100 mg/m³           2u4 ppm           TGG-15min (OEL STEL)         246 mg/m³           60 ppm           MAC chemical category         skin notation           Poland - Occupational Exposure Limits           NDS (OEL TWA)         98 mg/m³           NDSCh (OEL STEL)         200 mg/m³           Portugal - Occupational Exposure Limits         98 mg/m³ (indicative limit value)           OEL TWA         99 mg/m³ (indicative limit value)           OEL TWA         246 mg/m³ (indicative limit value)	OEL chemical category	skin notation
20 ppm	Luxembourg - Occupational Exposure Limits	
OEL STEL         246 mg/m³           OEL chemical category         Possibility of significant uptake through the skin           Malta - Occupational Exposure Limits           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         50 ppm           OEL chemical category         Possibility of significant uptake through the skin           Netherlands - Occupational Exposure Limits           TGG-8u (OEL TWA)         100 mg/m³           20.4 ppm         20.4 ppm           TGG-15min (OEL STEL)         246 mg/m³           MAC chemical category         skin notation           Poland - Occupational Exposure Limits           NDS (OEL TWA)         98 mg/m³           NDSCh (OEL STEL)         200 mg/m³           Portugal - Occupational Exposure Limits           OCL TWA           OEL TWA         98 mg/m³ (indicative limit value)           OEL TWA         20 ppm (indicative limit value)	OEL TWA	98 mg/m³
OEL chemical category Possibility of significant uptake through the skin  Malta - Occupational Exposure Limits  OEL TWA   98 mg/m³ 20 ppm  OEL STEL  246 mg/m³ 50 ppm  OEL chemical category Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA)  100 mg/m³ 20.4 ppm  TGG-15min (OEL STEL)  246 mg/m³ 50 ppm  MAC chemical category skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA)  98 mg/m³ NDSCh (OEL STEL)  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)		20 ppm
OEL chemical category     Possibility of significant uptake through the skin       Malta - Occupational Exposure Limits       OEL TWA     98 mg/m³       20 ppm       OEL STEL     246 mg/m³       50 ppm     Possibility of significant uptake through the skin       Netherlands - Occupational Exposure Limits       TGG-8u (OEL TWA)     100 mg/m³       20.4 ppm       TGG-15min (OEL STEL)       246 mg/m³       50 ppm       MAC chemical category     skin notation       Poland - Occupational Exposure Limits       NDS (OEL TWA)     98 mg/m³       NDSCh (OEL STEL)     200 mg/m³       Portugal - Occupational Exposure Limits       Occupational Exposure Limits       Oct TWA       98 mg/m³ (indicative limit value)       20 ppm (indicative limit value)       OEL TWA     246 mg/m³ (indicative limit value)       OEL STEL     246 mg/m³ (indicative limit value)	OEL STEL	246 mg/m³
Malta - Occupational Exposure Limits  OEL TWA  98 mg/m³ 20 ppm  OEL STEL  246 mg/m³ 50 ppm  OEL chemical category  Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA)  100 mg/m³ 20.4 ppm  TGG-15min (OEL STEL)  246 mg/m³ 50 ppm  MAC chemical category  poland - Occupational Exposure Limits  NDS (OEL TWA)  98 mg/m³ NDSCh (OEL STEL)  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)		50 ppm
OEL TWA  98 mg/m³ 20 ppm  OEL STEL  246 mg/m³ 50 ppm  OEL chemical category Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA) 100 mg/m³ 20.4 ppm  TGG-15min (OEL STEL) 246 mg/m³ 50 ppm  MAC chemical category skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³ NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value)  OEL STEL 290 ppm (indicative limit value)  OEL STEL  OEL STEL 246 mg/m³ (indicative limit value)	OEL chemical category	Possibility of significant uptake through the skin
DEL STEL  246 mg/m³ 50 ppm  OEL chemical category Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA) 100 mg/m³ 20.4 ppm  TGG-15min (OEL STEL) 246 mg/m³ 50 ppm  MAC chemical category poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³ NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	Malta - Occupational Exposure Limits	
OEL STEL  246 mg/m³ 50 ppm  OEL chemical category  Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA)  100 mg/m³ 20.4 ppm  20.4 ppm  TGG-15min (OEL STEL)  246 mg/m³ 50 ppm  MAC chemical category  skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA)  98 mg/m³ NDSCh (OEL STEL)  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)  OEL STEL	OEL TWA	98 mg/m³
OEL chemical category Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA) 100 mg/m³ 20.4 ppm  TGG-15min (OEL STEL) 246 mg/m³ 50 ppm  MAC chemical category skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³ NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value) 20 ppm (indicative limit value)  OEL STEL 246 mg/m³ (indicative limit value)		20 ppm
OEL chemical category  Possibility of significant uptake through the skin  Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA)  100 mg/m³ 20.4 ppm  TGG-15min (OEL STEL)  246 mg/m³ 50 ppm  MAC chemical category  skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA)  NDS (OEL TWA)  NDSCh (OEL STEL)  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	OEL STEL	246 mg/m³
Netherlands - Occupational Exposure Limits  TGG-8u (OEL TWA)  100 mg/m³  20.4 ppm  TGG-15min (OEL STEL)  246 mg/m³  50 ppm  MAC chemical category  skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA)  NDSCh (OEL STEL)  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)		50 ppm
TGG-8u (OEL TWA)         100 mg/m³           20.4 ppm           TGG-15min (OEL STEL)         246 mg/m³           MAC chemical category         skin notation           Poland - Occupational Exposure Limits           NDS (OEL TWA)         98 mg/m³           NDSCh (OEL STEL)         200 mg/m³           Portugal - Occupational Exposure Limits           OEL TWA         98 mg/m³ (indicative limit value)           20 ppm (indicative limit value)         20 ppm (indicative limit value)           OEL STEL         246 mg/m³ (indicative limit value)	OEL chemical category	Possibility of significant uptake through the skin
20.4 ppm  TGG-15min (OEL STEL)  246 mg/m³ 50 ppm  MAC chemical category skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³  NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value) 20 ppm (indicative limit value)  OEL STEL 246 mg/m³ (indicative limit value)	Netherlands - Occupational Exposure Limits	
TGG-15min (OEL STEL)  246 mg/m³ 50 ppm  MAC chemical category skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³  NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value) 20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	TGG-8u (OEL TWA)	100 mg/m³
50 ppm  MAC chemical category skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³  NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL 246 mg/m³ (indicative limit value)		20.4 ppm
MAC chemical category  skin notation  Poland - Occupational Exposure Limits  NDS (OEL TWA)  NDSCh (OEL STEL)  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³  (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	TGG-15min (OEL STEL)	246 mg/m³
Poland - Occupational Exposure Limits  NDS (OEL TWA) 98 mg/m³  NDSCh (OEL STEL) 200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA 98 mg/m³ (indicative limit value) 20 ppm (indicative limit value)  OEL STEL 246 mg/m³ (indicative limit value)		50 ppm
NDS (OEL TWA)  98 mg/m³  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	MAC chemical category	skin notation
NDSCh (OEL STEL)  200 mg/m³  Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	Poland - Occupational Exposure Limits	
Portugal - Occupational Exposure Limits  OEL TWA  98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	NDS (OEL TWA)	98 mg/m³
OEL TWA  98 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	NDSCh (OEL STEL)	200 mg/m³
20 ppm (indicative limit value)  OEL STEL  246 mg/m³ (indicative limit value)	Portugal - Occupational Exposure Limits	
OEL STEL 246 mg/m³ (indicative limit value)	OEL TWA	98 mg/m³ (indicative limit value)
		20 ppm (indicative limit value)
50 ppm (indicative limit value)	OEL STEL	246 mg/m³ (indicative limit value)
		50 ppm (indicative limit value)

# Safety Data Sheet

OEL chemical category     A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, skin - potential for cutaneous exposure indicative limit value       Romania - Occupational Exposure Limits     98 mg/m³ 20 ppm       OEL TWA     98 mg/m³ 20 ppm       OEL STEL     246 mg/m³ 50 ppm       OEL chemical category     skin notation       Silovakia - Occupational Exposure Limits     98 mg/m³ 20 ppm       NPHV (OEL TWA)     246 mg/m³ 20 ppm       OEL chemical category     Potential for cutaneous absorption       Silovania - Occupational Exposure Limits     98 mg/m³ 20 ppm       OEL TWA     98 mg/m³ 20 ppm       OEL STEL     246 mg/m³ 50 ppm       OEL chemical category     Potential for cutaneous absorption       Spain - Occupational Exposure Limits     98 mg/m³ 50 ppm       VLA-ED (OEL TWA)     98 mg/m³ 60 cutaneous absorption       Spain - Occupational Exposure Limits     98 mg/m³ (indicative limit value)       VLA-EC (OEL STEL)     245 mg/m³ 50 ppm       OEL chemical category     skin - potential for cutaneous absorption       Spain - Biological limit values     50 ppm       OEL chemical category     skin - potential for cutaneous absorption       Spain - Biological limit values     200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: ord of shift (with hydrolysis)       Sweden - Occupational Exposure Limits     50 ppm </th <th>Butyl cellosolve (111-76-2)</th> <th></th>	Butyl cellosolve (111-76-2)		
OEL TWA         98 mg/m²           OEL STEL         246 mg/m²           OEL chemical category         \$10 ppm           OEL chemical category         \$10 ppm           Slovakia - Occupational Exposure Limits         PMPV (OEL TWA)           98 mg/m²         20 ppm           NPHV (OEL TWA)         98 mg/m²           OEL chemical category         Potential for cutaneous absorption           Slovania - Occupational Exposure Limits         98 mg/m²           OEL TWA         98 mg/m²           20 ppm         Potential for cutaneous absorption           OEL STEL         246 mg/m²           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits         VLA-ED (OEL TWA)           98 mg/m² (indicative limit value)         245 mg/m² (indicative limit value)           VLA-EC (OEL STEL)         250 ppm (indicative limit value)           VLA-EC (OEL STEL)         250 ppm (indicative limit value)           Spain - Biological limit values         250 ppm           Spain - Biological limit values         250 mg/m² (indicative: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits         26 mg/m²           Di ppm         50 ppm           <	OEL chemical category	·	
OEL STEL         246 mg/m²           OEL chemical category         skin notation           Slovakia - Occupational Exposure Limits         98 mg/m²           NPHV (OEL TWA)         98 mg/m²           20 ppm         NPHV (OEL C)           246 mg/m²         20 ppm           NPHV (OEL C)         246 mg/m²           OEL chemical category         Potential for cutaneous absorption           Slovania - Occupational Exposure Limits         98 mg/m²           OEL TWA         246 mg/m²           50 ppm         90 ppm           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits         98 mg/m² (indicative limit value)           VLA-ED (OEL TWA)         98 mg/m² (indicative limit value)           VLA-EC (OEL STEL)         245 mg/m² (indicative limit value)           VLA-EC (OEL STEL)         245 mg/m² (indicative limit value)           VLA-EC (OEL STEL)         250 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values         250 ppm           DEL Chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values         250 mg/g Kreatinin Parameter: Butoxyaccetic acid (with hydrolysis) - Medium: urine - Sampling time: end of sh	Romania - Occupational Exposure Limits		
OEL STEL         246 mg/m²           OEL chemical category         skin notation           Stovakia - Occupational Exposure Limits           NPHV (OEL TWA)         98 mg/m²           20 ppm         Potential for cutaneous absorption           Stovania - Occupational Exposure Limits           OEL STEL           246 mg/m²           50 ppm           OEL STEL         246 mg/m²           50 ppm           OEL Chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA)         98 mg/m² (indicative limit value)           29 ppm (indicative limit value)           VLA-ED (OEL STEL)         245 mg/m²           50 ppm         OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values           VLA-ED (OEL STEL)         220 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urino - Sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits           NO (OEL TWA)         50 mg/m²           10 ppm         50 ppm           OEL chemical category         skin notation <td colspa<="" td=""><td>OEL TWA</td><td>98 mg/m³</td></td>	<td>OEL TWA</td> <td>98 mg/m³</td>	OEL TWA	98 mg/m³
S0 ppm		20 ppm	
SolverAils - Occupational Exposure Limits         98 mg/m²           NPHV (OEL TWA)         98 mg/m²           NPHV (OEL C)         246 mg/m³           OEL chemical category         Potential for cutaneous absorption           Siovenia - Occupational Exposure Limits           OEL TWA         98 mg/m²           20 ppm         20 ppm           OEL STEL         246 mg/m²           50 ppm         50 ppm           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA)         98 mg/m² (indicative limit value)           VLA-ED (OEL STEL)         245 mg/m²           50 ppm         50 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values         245 mg/m²           Spain - Biological limit values         skin - potential for cutaneous absorption           Spain - Biological limit values         200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits         246 mg/m²           KGV (OEL STEL)         246 mg/m²           For ppm         246 mg/m²           10 p	OEL STEL	246 mg/m³	
Slovakia - Occupational Exposure Limits           NPHV (OEL TWA)         98 mg/m³           20 ppm           NPHV (OEL C)         246 mg/m³           OEL chemical category         Potential for cutaneous absorption           Slovenia - Occupational Exposure Limits         98 mg/m³           20 ppm           OEL TWA         246 mg/m²           50 ppm           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA)         98 mg/m³ (indicative limit value)           VLA-EC (OEL STEL)         245 mg/m³           50 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values           BLV         200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits           NVY (OEL TWA)         50 mg/m³           10 ppm           KGV (OEL STEL)         246 mg/m³           50 ppm           WEL TWA (OEL TWA)         123 mg/m³           25 ppm           WEL TWA (OEL TWA)         246 mg/m²           50 ppm <td></td> <td>50 ppm</td>		50 ppm	
NPHV (OEL TWA)         98 mg/m³           20 ppm           NPHV (OEL C)         246 mg/m³           OEL chemical category         Potential for cutaneous absorption           Silvenia - Occupational Exposure Limits           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         50 ppm           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA)         98 mg/m³ (indicative limit value)           245 mg/m³           50 ppm         Potential for cutaneous absorption           VLA-EC (OEL STEL)         245 mg/m³           50 ppm         Spampling time twalue)           Spain - Biological limit values           Spain - Biological limit value           Spain - Biological limit value           Spain - Biological limit value	OEL chemical category	skin notation	
NPHV (OEL C)	Slovakia - Occupational Exposure Limits		
NPHV (OEL C)         246 mg/m³           OEL chemical category         Potential for cutaneous absorption           Slovenia - Occupational Exposure Limits           OEL TWA         98 mg/m³           20 ppm         20 ppm           OEL STEL         246 mg/m³           50 ppm         Potential for cutaneous absorption           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA)         98 mg/m³ (indicative limit value)           VLA-ED (OEL STEL)         245 mg/m³           50 ppm         50 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values           Spain - Biological limit values           Spain - Biological limit values           Sum - graph is time; end of shift (with hydrolysis) - Medium; urine - Sampling time; end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits           NEX (OEL TWA)         50 mg/m³           10 ppm         (50 ppm           OEL chemical category         skin notation           United Kingdom - Occupational Exposure Limits           WEL TWA (OEL TWA)         123 mg/m³           25 ppm           WEL STEL (OEL STEL)         246 mg/m³ <td>NPHV (OEL TWA)</td> <td>98 mg/m³</td>	NPHV (OEL TWA)	98 mg/m³	
OEL chemical category         Potential for cutaneous absorption           Slovenia - Occupational Exposure Limits           OEL TWA         98 mg/m²           20 ppm         20 ppm           OEL STEL         246 mg/m²           50 ppm         50 ppm           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits         98 mg/m³ (indicative limit value)           VLA-ED (OEL TWA)         98 mg/m³ (indicative limit value)           20 ppm (indicative limit value)           VLA-EC (OEL STEL)         250 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values         200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - sampling time: end of shift (with hydrolysis) - Medium: urine - sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits         50 mg/m³           10 ppm         10 ppm           KGV (OEL STEL)         \$46 mg/m³           50 ppm         50 ppm           OEL chemical category         skin notation           United Kingdom - Occupational Exposure Limits         123 mg/m³           25 ppm           WEL TWA (OEL TWA)         246 mg/m³     <		20 ppm	
Silvenia - Occupational Exposure Limits  OEL TWA  Per may may be mg/m³ 20 ppm  OEL STEL  246 mg/m³ 50 ppm  OEL chemical category Potential for cutaneous absorption  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA)  98 mg/m³ (indicative limit value) 20 ppm (indicative limit value) 20 ppm (indicative limit value)  VLA-EC (OEL STEL)  245 mg/m³ 50 ppm  OEL chemical category skin - potential for cutaneous absorption  Spain - Biological limit values  BLV  200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA)  50 mg/m³ 10 ppm  KGV (OEL STEL)  64 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³ 25 ppm  WEL STEL (OEL STEL)  446 mg/m³ 50 ppm	NPHV (OEL C)	246 mg/m³	
OEL TWA         98 mg/m²           20 ppm         246 mg/m²           50 ppm         50 ppm           OEL Chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits         98 mg/m² (indicative limit value)           VLA-ED (OEL TWA)         98 mg/m² (indicative limit value)           VLA-EC (OEL STEL)         245 mg/m²           50 ppm         50 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values           BLV         200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits           NeY (OEL TWA)         50 mg/m²           10 ppm           KGY (OEL STEL)         246 mg/m²           50 ppm           OEL chemical category         skin notation           United Kingdom - Occupational Exposure Limits           WEL TWA (OEL TWA)         123 mg/m²           25 ppm           WEL STEL (OEL STEL)         246 mg/m²           50 ppm	OEL chemical category	Potential for cutaneous absorption	
DEL STEL  246 mg/m³ 50 ppm  OEL chemical category Potential for cutaneous absorption  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) 98 mg/m³ (indicative limit value) 20 ppm (indicative limit value) 20 ppm (indicative limit value)  VLA-EC (OEL STEL) 245 mg/m³ 50 ppm  OEL chemical category skin - potential for cutaneous absorption  Spain - Biological limit values  BLV 200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 50 mg/m³ 10 ppm  KGV (OEL STEL) 246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA) 123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm	Slovenia - Occupational Exposure Limits		
OEL STEL         246 mg/m³           OEL chemical category         Potential for cutaneous absorption           Spain - Occupational Exposure Limits           VLA-ED (OEL TWA)         98 mg/m³ (indicative limit value)           VLA-EC (OEL STEL)         245 mg/m³           50 ppm         50 ppm           OEL chemical category         skin - potential for cutaneous absorption           Spain - Biological limit values         200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)           Sweden - Occupational Exposure Limits         50 mg/m²           10 ppm           KGV (OEL TWA)         50 mg/m²           10 ppm           KGV (OEL STEL)         246 mg/m²           50 ppm           OEL chemical category         skin notation           United Kingdom - Occupational Exposure Limits           WEL TWA (OEL TWA)         123 mg/m²           25 ppm           WEL STEL (OEL STEL)         246 mg/m²           50 ppm	OEL TWA	98 mg/m³	
OEL chemical category Potential for cutaneous absorption  Spain - Occupational Exposure Limits  VLA-ED (OEL TWA) 98 mg/m² (indicative limit value) 20 ppm (indicative limit value) 21 ppm (indicative limit value) 22 ppm (indicative limit value) 245 mg/m³ 50 ppm  OEL chemical category skin - potential for cutaneous absorption  Spain - Biological limit values  BLV 200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 50 mg/m³ 10 ppm  KGV (OEL STEL) 246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA) 123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm		20 ppm	
OEL chemical category     Potential for cutaneous absorption       Spain - Occupational Exposure Limits       VLA-ED (OEL TWA)     98 mg/m³ (indicative limit value)       VLA-EC (OEL STEL)     20 ppm (indicative limit value)       VLA-EC (OEL STEL)     245 mg/m³       50 ppm     50 ppm       OEL chemical category     skin - potential for cutaneous absorption       Spain - Biological limit values       BLV     200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)       Sweden - Occupational Exposure Limits       NGV (OEL TWA)     50 mg/m³       10 ppm     466 mg/m³       OEL chemical category     skin notation       United Kingdom - Occupational Exposure Limits       WEL TWA (OEL TWA)     123 mg/m³       25 ppm       WEL STEL (OEL STEL)     246 mg/m³       50 ppm	OEL STEL	246 mg/m³	
Spain - Occupational Exposure Limits  VLA-ED (OEL TWA)  28 mg/m³ (indicative limit value)  20 ppm (indicative limit value)  VLA-EC (OEL STEL)  245 mg/m³  50 ppm  OEL chemical category  skin - potential for cutaneous absorption  Spain - Biological limit values  BLV  200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA)  50 mg/m³  10 ppm  KGV (OEL STEL)  246 mg/m³  50 ppm  OEL chemical category  skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³  25 ppm  WEL STEL (OEL STEL)  246 mg/m³  50 ppm		50 ppm	
VLA-ED (OEL TWA)  98 mg/m³ (indicative limit value)  VLA-EC (OEL STEL)  245 mg/m³  50 ppm  OEL chemical category  skin - potential for cutaneous absorption  Spain - Biological limit values  BLV  200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA)  50 mg/m³  10 ppm  KGV (OEL STEL)  246 mg/m³  50 ppm  OEL chemical category  wikin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³  25 ppm  WEL STEL (OEL STEL)  246 mg/m³  550 ppm	OEL chemical category	Potential for cutaneous absorption	
VLA-EC (OEL STEL)  245 mg/m³ 50 ppm  OEL chemical category skin - potential for cutaneous absorption  Spain - Biological limit values  BLV 200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 50 mg/m³ 10 ppm  KGV (OEL STEL) 246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA) 123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm	Spain - Occupational Exposure Limits		
VLA-EC (OEL STEL)  245 mg/m³ 50 ppm  OEL chemical category skin - potential for cutaneous absorption  Spain - Biological limit values  BLV  200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA)  50 mg/m³ 10 ppm  KGV (OEL STEL)  246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  25 ppm  WEL STEL (OEL STEL)  246 mg/m³ 50 ppm	VLA-ED (OEL TWA)	98 mg/m³ (indicative limit value)	
OEL chemical category skin - potential for cutaneous absorption  Spain - Biological limit values  BLV 200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 50 mg/m³ 10 ppm  KGV (OEL STEL) 246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA) 123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm		20 ppm (indicative limit value)	
OEL chemical category       skin - potential for cutaneous absorption         Spain - Biological limit values         BLV       200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)         Sweden - Occupational Exposure Limits         NGV (OEL TWA)       50 mg/m³         10 ppm       246 mg/m³         50 ppm         OEL chemical category       skin notation         United Kingdom - Occupational Exposure Limits         WEL TWA (OEL TWA)       123 mg/m³         25 ppm         WEL STEL (OEL STEL)       246 mg/m³         50 ppm	VLA-EC (OEL STEL)	245 mg/m³	
Spain - Biological limit values  BLV 200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 50 mg/m³ 10 ppm  KGV (OEL STEL) 246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA) 123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm		50 ppm	
BLV 200 mg/g Kreatinin Parameter: Butoxyacetic acid (with hydrolysis) - Medium: urine - Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA) 50 mg/m³ 10 ppm  KGV (OEL STEL) 246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA) 123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm	OEL chemical category	skin - potential for cutaneous absorption	
Sampling time: end of shift (with hydrolysis)  Sweden - Occupational Exposure Limits  NGV (OEL TWA)  50 mg/m³  10 ppm  KGV (OEL STEL)  246 mg/m³  50 ppm  OEL chemical category  skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³  25 ppm  WEL STEL (OEL STEL)  246 mg/m³  50 ppm	Spain - Biological limit values		
NGV (OEL TWA)	BLV		
KGV (OEL STEL)  246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³ 25 ppm  WEL STEL (OEL STEL)  246 mg/m³ 50 ppm	Sweden - Occupational Exposure Limits		
KGV (OEL STEL)  246 mg/m³ 50 ppm  OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³ 25 ppm  WEL STEL (OEL STEL) 246 mg/m³ 50 ppm	NGV (OEL TWA)	50 mg/m³	
OEL chemical category skin notation  United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³ 25 ppm  WEL STEL (OEL STEL)  246 mg/m³ 50 ppm		10 ppm	
OEL chemical category  ### Skin notation    United Kingdom - Occupational Exposure Limits    WEL TWA (OEL TWA)	KGV (OEL STEL)	246 mg/m³	
United Kingdom - Occupational Exposure Limits  WEL TWA (OEL TWA)  123 mg/m³  25 ppm  WEL STEL (OEL STEL)  246 mg/m³  50 ppm		50 ppm	
WEL TWA (OEL TWA)       123 mg/m³         25 ppm       246 mg/m³         50 ppm       50 ppm	OEL chemical category	skin notation	
25 ppm  WEL STEL (OEL STEL)  246 mg/m³  50 ppm	United Kingdom - Occupational Exposure Limits		
WEL STEL (OEL STEL)  246 mg/m³  50 ppm	WEL TWA (OEL TWA)	123 mg/m³	
50 ppm		25 ppm	
	WEL STEL (OEL STEL)	246 mg/m³	
WEL chemical category Potential for cutaneous absorption		50 ppm	
	WEL chemical category	Potential for cutaneous absorption	

# Safety Data Sheet

-	
Butyl cellosolve (111-76-2)	
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	50 mg/m³
	10 ppm
Korttidsverdi (OEL STEL)	75 mg/m³ (value calculated)
	20 ppm (value calculated)
OEL chemical category	skin notation
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	49 mg/m³
	10 ppm
KZGW (OEL STEL)	98 mg/m³
	20 ppm
OEL chemical category	skin notation
Switzerland - BAT (BLV)	
BAT (BLV)	150 mg/g Kreatinin Parameter: 2-Butoxyacetic acid (after hydrolysis) - Medium: urine - Sampling time: end of shift, and after several shifts (for long-term exposures)
Turkey - Occupational Exposure Limits	
OEL TWA	98 mg/m³
	20 ppm
OEL STEL	246 mg/m³
	50 ppm
OEL chemical category	skin notation
USA - ACGIH - Occupational Exposure Limits	
Local name	2-Butoxyethanol (EGBE)
ACGIH® TLV® TWA	20 ppm
Remark (ACGIH®)	eye and upper respiratory tract irritation
ACGIH® chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	2-Butoxyethanol
BEI (BLV)	200 mg/g Kreatinin Parameter: Butoxyacetic acid with hydrolysis - Medium: urine - Sampling time: end of shift
Regulatory reference	ACGIH 2024
Carbon black (1333-86-4)	
Belgium - Occupational Exposure Limits	
OEL TWA	3 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	3.5 mg/m³
KGVI (OEL STEL)	7 mg/m³
	1

# Safety Data Sheet

Carbon black (1333-86-4)	
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	2 mg/m³ (dust)
Denmark - Occupational Exposure Limits	
OEL TWA	3.5 mg/m³
OEL STEL	7 mg/m³
Estonia - Occupational Exposure Limits	
OEL TWA	3 mg/m³
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	3.5 mg/m³
HTP (OEL STEL)	7 mg/m³
France - Occupational Exposure Limits	
VME (OEL TWA)	3.5 mg/m³
Greece - Occupational Exposure Limits	
OEL TWA	3.5 mg/m³
OEL STEL	7 mg/m³
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	3 mg/m³ (inhalable concentration (flying and fibrous powders)
Ireland - Occupational Exposure Limits	
OEL TWA	3 mg/m³ (inhalable fraction)
OEL STEL	15 mg/m³ (calculated-inhalable fraction)
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	4 mg/m³ (inhalable fraction)
Portugal - Occupational Exposure Limits	
OEL TWA	3 mg/m³ (inhalable fraction)
OEL chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	2 mg/m³ (respirable fraction, 5% or less fibrogenic component) 10 mg/m³ (respirable fraction, greater than 5% fibrogenic component) 10 mg/m³ (total aerosol)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	3.5 mg/m³
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	3 mg/m³ (inhalable fraction)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	3.5 mg/m³
WEL STEL (OEL STEL)	7 mg/m³
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	3.5 mg/m³
Korttidsverdi (OEL STEL)	7 mg/m³ (value calculated)

# Safety Data Sheet

Carbon black (1333-86-4)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Carbon black
ACGIH® TLV® TWA	3 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH®)	TLV® Basis: Bronchitis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH® chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2025
Sodium nitrite (7632-00-0)	
Lithuania - Occupational Exposure Limits	
NRV (OEL C)	0.1 mg/m³
USA - ACGIH - Occupational Exposure Limits	
Remark (ACGIH®)	OELs not established
Acrylonitrile (107-13-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	1 mg/m³ (limit values shall apply from 5 April 2026)
	0.45 ppm (limit values shall apply from 5 April 2026)
Remark	Present (Substantial contribution to the total body burden via dermal exposure possible) Present (Dermal sensitisation: the substance can cause sensitisation of the skin)
Austria - Occupational Exposure Limits	
TRK (OEL TWA)	4.5 mg/m³
	2 ppm
OEL chemical category	skin notation, Group A2 Carcinogen, Skin sensitizer
Belgium - Occupational Exposure Limits	
OEL TWA	4.4 mg/m³
	2 ppm
OEL chemical category	Skin, Carcinogen
Bulgaria - Occupational Exposure Limits	
OEL TWA	4.5 mg/m³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	4.4 mg/m³
	2 ppm
OEL chemical category	Carcinogen Category 1B, skin notation
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	2 mg/m³
OEL chemical category	Potential for cutaneous absorption, Sensitizer
Denmark - Occupational Exposure Limits	
OEL TWA	4 mg/m³
	2 ppm
OEL STEL	8 mg/m³

# Safety Data Sheet

Acrylonitrile (107-13-1)	
	4 ppm
OEL chemical category	Potential for cutaneous absorption
Estonia - Occupational Exposure Limits	
OEL TWA	4.5 mg/m³
	2 ppm
OEL STEL	13 mg/m³
	6 ppm
OEL chemical category	skin notation, Carcinogenic substance
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	4.4 mg/m³
	2 ppm
HTP (OEL STEL)	8.8 mg/m³
	4 ppm
OEL chemical category	Potential for cutaneous absorption
France - Occupational Exposure Limits	
VME (OEL TWA)	4.5 mg/m³
	2 ppm
VLE (OEL C/STEL)	32.5 mg/m³
	15 ppm
OEL chemical category	Carcinogen category 1B
Greece - Occupational Exposure Limits	
OEL TWA	4.5 mg/m³
	2 ppm
OEL chemical category	skin - potential for cutaneous absorption
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	4.3 mg/m³
OEL chemical category	Carc. 1B - Presumed Carcinogen
Ireland - Occupational Exposure Limits	
OEL TWA	4.5 mg/m³
	2 ppm
OEL STEL	13.5 mg/m³ (calculated)
	6 ppm (calculated)
OEL chemical category	Carc1B, Sensitizer, Potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	0.5 mg/m³
Lithuania - Occupational Exposure Limits	·
IPRV (OEL TWA)	4.5 mg/m³
	2 ppm
TPRV (OEL STEL)	13 mg/m³

# Safety Data Sheet

Acrylonitrile (107-13-1)	
	6 ppm
OEL chemical category	Carcinogen
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	2 mg/m³
NDSCh (OEL STEL)	10 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	2 ppm
OEL chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, skin - potential for cutaneous exposure
Romania - Occupational Exposure Limits	
OEL TWA	5 mg/m³
	2.3 ppm
OEL STEL	10 mg/m³
	4.6 ppm
OEL chemical category	C1B, skin notation
Slovenia - Occupational Exposure Limits	
OEL TWA	7 mg/m³
	3 ppm
OEL STEL	28 mg/m³
	12 ppm
OEL chemical category	Category 1B, Potential for cutaneous absorption
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	4.4 mg/m³ (manufacturing, commercialization and use restrictions according to REACH)
	2 ppm (manufacturing, commercialization and use restrictions according to REACH)
OEL chemical category	C1B, Sensitizer, skin - potential for cutaneous absorption
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	4.5 mg/m³
	2 ppm
KGV (OEL STEL)	13 mg/m³
	6 ppm
OEL chemical category	skin notation, Carcinogen
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	4.4 mg/m³
	2 ppm
WEL STEL (OEL STEL)	13.2 mg/m³ (calculated)
	6 ppm (calculated)
WEL chemical category	Potential for cutaneous absorption, Capable of causing cancer and/or heritable genetic damage
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	4 mg/m³

# Safety Data Sheet

Acrylonitrile (107-13-1)	
	2 ppm
Korttidsverdi (OEL STEL)	8 mg/m³ (value calculated)
	4 ppm (value calculated)
OEL chemical category	skin notation, Carcinogen
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	4.5 mg/m³
	2 ppm
KZGW (OEL STEL)	4.5 mg/m³
	2 ppm
OEL chemical category	Sensitizer, skin notation, Category C1B carcinogen
USA - ACGIH - Occupational Exposure Limits	
Local name	Acrylonitrile
ACGIH® TLV® TWA	1.3 mg/m³
	2 ppm
Remark (ACGIH®)	TLV® Basis: CNS impair; LRT irr. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH® chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2024
2-Ethylhexyl acrylate (103-11-7)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	82 mg/m³
	10 ppm
MAK (OEL STEL)	82 mg/m³
	10 ppm
OEL C	10 ppm 82 mg/m³
OEL C	
OEL C OEL chemical category	82 mg/m³
	82 mg/m³ 10 ppm Skin sensitizer
OEL chemical category	82 mg/m³ 10 ppm Skin sensitizer
OEL chemical category  Germany - Occupational Exposure Limits (TRGS 9)	82 mg/m³ 10 ppm Skin sensitizer  00)  38 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and
OEL chemical category  Germany - Occupational Exposure Limits (TRGS 9)	82 mg/m³  10 ppm  Skin sensitizer  00)  38 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW
OEL chemical category  Germany - Occupational Exposure Limits (TRGS 9)  AGW (OEL TWA)	82 mg/m³  10 ppm  Skin sensitizer  00)  38 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
OEL chemical category  Germany - Occupational Exposure Limits (TRGS 9)  AGW (OEL TWA)  Chemical category	82 mg/m³  10 ppm  Skin sensitizer  00)  38 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
OEL chemical category  Germany - Occupational Exposure Limits (TRGS 9)  AGW (OEL TWA)  Chemical category  Latvia - Occupational Exposure Limits	82 mg/m³  10 ppm  Skin sensitizer  00)  38 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Skin sensitization
OEL chemical category  Germany - Occupational Exposure Limits (TRGS 9)  AGW (OEL TWA)  Chemical category  Latvia - Occupational Exposure Limits  OEL TWA	82 mg/m³  10 ppm  Skin sensitizer  00)  38 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  5 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Skin sensitization

# Safety Data Sheet

2-Ethylhexyl acrylate (103-11-7)	
Slovenia - Occupational Exposure Limits	
OEL TWA	38 mg/m³
	5 ppm
OEL STEL	38 mg/m³
	5 ppm
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	38 mg/m³ (aerosol, vapour)
	5 ppm (aerosol, vapour)
KZGW (OEL STEL)	38 mg/m³ (aerosol, vapour)
	5 ppm (aerosol, vapour)
OEL chemical category	Sensitizer
USA - ACGIH - Occupational Exposure Limits	
Remark (ACGIH®)	OELs not established
1,4-Dioxane (123-91-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	73 mg/m³
IOEL TWA	20 ppm
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	73 mg/m³
MAK (OEL TWA)	20 ppm
MAK (OEL STEL)	146 mg/m³
MAK (OEL STEL)	40 ppm
OEL chemical category	skin notation, Group B Carcinogen
Belgium - Occupational Exposure Limits	
OEL TWA	73 mg/m³
OEL TWA	20 ppm
OEL chemical category	Skin
Bulgaria - Occupational Exposure Limits	
OEL TWA	73 mg/m³
OEL TWA	20 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	73 mg/m³
GVI (OEL TWA)	20 ppm
Cyprus - Occupational Exposure Limits	
OEL TWA	73 mg/m³
OEL TWA	20 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	70 mg/m³
OEL chemical category	Potential for cutaneous absorption

# Safety Data Sheet

Deli TWA 36 mg/m² OEL TWA 10 ppm OEL STEL 72 mg/m² OEL STEL 20 ppm OEL STEL 20 ppm OEL chamical category Potential for cutaneous absorption Estonia - Occupational Exposure Limits OEL TWA 20 ppm OEL TWA 73 mg/m² OEL TWA 20 ppm OEL TWA 20 ppm Finland - Occupational Exposure Limits OEL TWA 10 ppm Finland - Occupational Exposure Limits OEL TWA 10 ppm HTP (OEL TWA) 10 ppm HTP (OEL STEL) 150 mg/m² VWE (OEL STEL) 150 mg/m² VWE (OEL STEL) 150 mg/m² VWE (OEL TWA) 73 mg/m² (restrictive limit) VWE (OEL TWA) 20 ppm (restrictive limit) VWE (OEL TWA) 10 pm (restrictive limit) 10 pm (restrictive limit) VWE (OEL CISTEL) 10 ph/m (restrictive limit) 10 pm (restrictive limit) VWE (OEL CISTEL) 10 ph/m (restrictive limit) 10 pm (	1,4-Dioxane (123-91-1)	
OEL TWA OEL STEL 72 mg/m² OEL STEL 20 ppm OEL chemical category Potential for cutaneous absorption Estonia - Occupational Exposure Limits OEL TWA 73 mg/m² OEL TWA 73 mg/m² OEL TWA 74 mg/m² OEL TWA 75 mg/m² OEL TWA 75 mg/m² OEL TWA 76 mg/m² HTP (OEL TWA) 16 mg/m² HTP (OEL STEL) 150 mg/m² HTP (OEL STEL) 150 mg/m² HTP (OEL STEL) 150 mg/m² OEL CHEMICAL STEL) 150 mg/m² (restrictive limit) VME (OEL STEL) 150 mg/m² (restrictive limit) VME (OEL TWA) 150 mg/m² (restrictive limit) VME (OEL CSTEL) 150 mg/m² (restrictive limit) (restrictive limit) VME (OEL CSTEL) 150 mg/m² (restrictive limit) (restrictive limit) VME (OEL CSTEL) 150 mg/m² (restrictive limit) (restrictive limit) VME (OEL CSTEL) 150 mg/m² (restrictive limit) (restrictive limit) VME (OEL CSTEL) 150 mg/m² (restrictive limit) (restrictive limit) OEL TWA 170 mg/m²	Denmark - Occupational Exposure Limits	
OEL STEL 77 mg/m³ OEL STEL 20 ppm OEL chemical category Potential for cutaneous absorption  Estonia - Occupational Exposure Limits OEL TWA 73 mg/m³ OEL TWA 20 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) 36 mg/m³ HTP (OEL TWA) 10 ppm HTP (OEL STEL) 150 mg/m³ OEL chemical category Potential for cutaneous absorption France - Occupational Exposure Limits  WIME (OEL TWA) 73 mg/m² (restrictive limit) VIME (OEL TWA) 75 mg/m² (restrictive limit) VIME (OEL TWA) 75 mg/m² (restrictive limit) VIME (OEL CISTEL) 40 ppm (restrictive limit) VIME (OEL CISTEL) 40 mg/m² (restrictive limit) VIME (OEL TWA) 20 ppm	OEL TWA	36 mg/m³
OEL STEL 20 ppm  OEL chemical category Potential for cutaneous absorption  Estonia - Occupational Exposure Limits  OEL TWA 73 mg/m²  OEL TWA 20 ppm  Finland - Occupational Exposure Limits  HTP (OEL TWA) 36 mg/m²  HTP (OEL TWA) 10 ppm  HTP (OEL STEL) 150 mg/m²  HTP (OEL STEL) 40 ppm  OEL chemical category Potential for cutaneous absorption  France - Occupational Exposure Limits  VME (OEL TWA) 20 ppm (restrictive limit)  VME (OEL TWA) 20 ppm (restrictive limit)  VILE (OEL CYSTEL) 10 mg/m² (restrictive limit)  VILE (OEL TWA) 10 mg/m² (restrictive limit) 10 mg/m²	OEL TWA	10 ppm
OEL chemical category Potential for cutaneous absorption  Estonia - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Finiand - Occupational Exposure Limits  HTP (OEL TWA) 36 mg/m³  HTP (OEL TWA) 10 ppm  HTP (OEL STEL) 150 mg/m³  HTP (OEL STEL) 40 ppm  OEL chemical category Potential for cutaneous absorption  France - Occupational Exposure Limits  VME (OEL TWA) 73 mg/m² (restrictive limit)  VME (OEL CYSTEL) 10 mg/m² (restrictive limit)  VIE (OEL CYSTEL) 27 mg/m² (restrictive limit) (restrictive limit)  VIE (OEL CYSTEL) 28 mg/m² (restrictive limit) (restrictive limit)  VIE (OEL CYSTEL) 29 mg/m² (restrictive limit) (restrictive lim	OEL STEL	72 mg/m³
Estonia - Occupational Exposure Limits   73 mg/m²   OEL TWA   20 ppm	OEL STEL	20 ppm
OEL TWA 73 mg/m² OEL TWA 20 ppm Finland - Occupational Exposure Limits HTP (OEL TWA) 36 mg/m² HTP (OEL TWA) 10 ppm HTP (OEL STEL) 150 mg/m² HTP (OEL STEL) 40 ppm OEL chemical category Potential for cutaneous absorption France - Occupational Exposure Limits VME (OEL TWA) 20 ppm (restrictive limit) VLE (OEL CISTEL) 140 ppm (restrictive limit this value is not set by regulation and comes from a circular published by the Ministry of Labor.) VLE (OEL CISTEL) 40 ppm (restrictive limit this value is not set by regulation and comes from a circular published by the Ministry of Labor.) OEL chemical category Carcinogen category 18 Germany - Occupational Exposure Limits (TRGS 800) AGW (OEL TWA) 73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) AGW (OEL TWA) 20 ppm (he risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) Skin notation Germany - Biological limit value (TRGS 903) Biological limit value 20 pmg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift Gibraltar - Occupational Exposure Limits OEL TWA 73 mg/m² OEL TWA 73 mg/m² OEL TWA 73 mg/m² OEL TWA 73 mg/m³ OEL TWA 20 ppm Hungary - Occupational Exposure Limits  K (OEL TWA) 73 mg/m³	OEL chemical category	Potential for cutaneous absorption
OEL TWA  20 ppm  Finland - Occupational Exposure Limits  HTP (OEL TWA)  10 ppm  HTP (OEL TWA)  10 ppm  HTP (OEL STEL)  150 mg/m³  HTP (OEL STEL)  40 ppm  OEL chemical category  Potential for cutaneous absorption  France - Occupational Exposure Limits  WME (OEL TWA)  73 mg/m² (restrictive limit)  VME (OEL TWA)  20 ppm (restrictive limit)  VLE (OEL CISTEL)  40 mg/m² (restrictive limit)  VLE (OEL CISTEL)  40 ppm (restrictive limit)  VLE (OEL CISTEL)  40 ppm (restrictive limit this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL CISTEL)  40 ppm (restrictive limit this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m² (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  Skin notation  Germany - Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³  OEL TWA  74 mg/m³	Estonia - Occupational Exposure Limits	
Finland - Occupational Exposure Limits  HTP (OEL TWA) 36 mg/m²  HTP (OEL STEL) 150 mg/m³  HTP (OEL STEL) 40 ppm  OEL chemical category Potential for cutaneous absorption  France - Occupational Exposure Limits  VME (OEL TWA) 20 ppm (restrictive limit)  VME (OEL TWA) 20 ppm (restrictive limit)  VLE (OEL C/STEL) 140 mg/m² (restrictive limit is value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL) 40 ppm (restrictive limit is value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA) 73 mg/m² (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA) 20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value (TRGS 903)  Biological limit value (TRGS 903)  Chemical category 37 mg/m²  OEL TWA 73 mg/m²  OEL TWA 75 mg/m²	OEL TWA	73 mg/m³
HTP (OEL TWA) 36 mg/m² HTP (OEL STEL) 10 ppm HTP (OEL STEL) 40 ppm OEL chemical category Potential for cutaneous absorption France - Occupational Exposure Limits  VME (OEL TWA) 73 mg/m² (restrictive limit)  VME (OEL TWA) 20 ppm (restrictive limit)  VLE (OEL C/STEL) 440 mg/m² (restrictive limit)  VLE (OEL C/STEL) 440 mg/m² (restrictive limit)  VLE (OEL C/STEL) 440 mg/m² (restrictive limit) this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL) 40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category 0 Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA) 73 mg/m² (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA) 20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category skin notation  Germany - Biological limit value (TRGS 903)  Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m²  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  OEL TWA 73 mg/m²  OEL TWA 20 ppm	OEL TWA	20 ppm
HTP (OEL TWA) 10 ppm HTP (OEL STEL) 150 mg/m³ HTP (OEL STEL) 40 ppm OEL chemical category Potential for cutaneous absorption France - Occupational Exposure Limits VME (OEL TWA) 73 mg/m³ (restrictive limit) VME (OEL TWA) 20 ppm (restrictive limit) VLE (OEL C/STEL) 10 mg/m³ (restrictive limit) VLE (OEL C/STEL) 140 mg/m³ (restrictive limit this value is not set by regulation and comes from a circular published by the Ministry of Labor.) VLE (OEL C/STEL) 40 ppm (restrictive limit this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category 20 Carcinogen category 18 Germany - Occupational Exposure Limits (TRGS 900) AGW (OEL TWA) 73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA) 20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category skin notation  Germany - Biological limit values (TRGS 903) Biological limit values (TRGS 903) Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 70 mg/m³	Finland - Occupational Exposure Limits	
HTP (OEL STEL) 150 mg/m³ HTP (OEL STEL) 40 ppm OEL chemical category Potential for cutaneous absorption  France - Occupational Exposure Limits  VME (OEL TWA) 73 mg/m³ (restrictive limit)  VME (OEL TWA) 20 ppm (restrictive limit)  VLE (OEL C/STEL) 140 mg/m³ (restrictive limit) into set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL) 40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL) 40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA) 73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA) 20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 73 mg/m³  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	HTP (OEL TWA)	36 mg/m³
HTP (OEL STEL) 40 ppm OEL chemical category Potential for cutaneous absorption  France - Occupational Exposure Limits  VME (OEL TWA) 73 mg/m² (restrictive limit)  VME (OEL TWA) 20 ppm (restrictive limit)  VLE (OEL C/STEL) 140 mg/m² (restrictive limit) this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL) 40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA) 73 mg/m² (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA) 20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m²	HTP (OEL TWA)	10 ppm
OEL chemical category Potential for cutaneous absorption  France - Occupational Exposure Limits  VME (OEL TWA) 73 mg/m³ (restrictive limit)  VME (OEL TWA) 20 ppm (restrictive limit)  VLE (OEL C/STEL) 140 mg/m² (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL) 40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA) 73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA) 20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m³	HTP (OEL STEL)	150 mg/m³
France - Occupational Exposure Limits  VME (OEL TWA)  73 mg/m³ (restrictive limit)  VLE (OEL C/STEL)  140 mg/m³ (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL)  40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  Skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³  OEL TWA  OEL T	HTP (OEL STEL)	40 ppm
VME (OEL TWA)  73 mg/m³ (restrictive limit)  VLE (OEL C/STEL)  140 mg/m³ (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL)  40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL)  40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³	OEL chemical category	Potential for cutaneous absorption
VME (OEL TWA)  20 ppm (restrictive limit)  VLE (OEL C/STEL)  140 mg/m² (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL)  40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m² (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m²  OEL TWA  OEL TWA  73 mg/m²  OEL TWA	France - Occupational Exposure Limits	
VLE (OEL C/STEL)  140 mg/m³ (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  VLE (OEL C/STEL)  40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³	VME (OEL TWA)	73 mg/m³ (restrictive limit)
published by the Ministry of Labor.)  VLE (OEL C/STEL)  40 ppm (restrictive limit: this value is not set by regulation and comes from a circular published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³	VME (OEL TWA)	20 ppm (restrictive limit)
published by the Ministry of Labor.)  OEL chemical category  Carcinogen category 1B  Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³	VLE (OEL C/STEL)	
Germany - Occupational Exposure Limits (TRGS 900)  AGW (OEL TWA)  AGW (OEL TWA)  AGW (OEL TWA)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³	VLE (OEL C/STEL)	
AGW (OEL TWA)  73 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  Skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³	OEL chemical category	Carcinogen category 1B
BGW values are observed)  AGW (OEL TWA)  20 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)  Chemical category  skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³  OEL TWA  20 ppm  Greece - Occupational Exposure Limits  OEL TWA  73 mg/m³	Germany - Occupational Exposure Limits (TRGS 90	00)
values are observed)  Chemical category skin notation  Germany - Biological limit values (TRGS 903)  Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Greece - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	AGW (OEL TWA)	
Germany - Biological limit value (TRGS 903)  Biological limit value 200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Greece - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	AGW (OEL TWA)	i i i i
Biological limit value  200 mg/g Kreatinin Parameter: 2-Hydroxyethoxyacetic acid - Medium: urine - Sampling time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA  73 mg/m³  OEL TWA  20 ppm  Greece - Occupational Exposure Limits  OEL TWA  73 mg/m³  OEL TWA  73 mg/m³  OEL TWA  73 mg/m³  OEL TWA  73 mg/m³  AK (OEL TWA)  73 mg/m³	Chemical category	skin notation
time: end of shift  Gibraltar - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Greece - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	Germany - Biological limit values (TRGS 903)	
OEL TWA         73 mg/m³           OEL TWA         20 ppm           Greece - Occupational Exposure Limits           OEL TWA         73 mg/m³           OEL TWA         20 ppm           Hungary - Occupational Exposure Limits           AK (OEL TWA)         73 mg/m³	Biological limit value	
OEL TWA 20 ppm  Greece - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	Gibraltar - Occupational Exposure Limits	
Greece - Occupational Exposure Limits  OEL TWA 73 mg/m³  OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	OEL TWA	73 mg/m³
OEL TWA         73 mg/m³           OEL TWA         20 ppm           Hungary - Occupational Exposure Limits           AK (OEL TWA)         73 mg/m³	OEL TWA	20 ppm
OEL TWA 20 ppm  Hungary - Occupational Exposure Limits  AK (OEL TWA) 73 mg/m³	Greece - Occupational Exposure Limits	
Hungary - Occupational Exposure Limits  AK (OEL TWA)  73 mg/m³	OEL TWA	73 mg/m³
AK (OEL TWA)  73 mg/m³	OEL TWA	20 ppm
	Hungary - Occupational Exposure Limits	
OEL chemical category Potential for cutaneous absorption	AK (OEL TWA)	73 mg/m³
	OEL chemical category	Potential for cutaneous absorption

# Safety Data Sheet

1,4-Dioxane (123-91-1)	
Ireland - Occupational Exposure Limits	
OEL TWA	73 mg/m³ (technical grade)
OEL TWA	20 ppm (technical grade)
OEL STEL	219 mg/m³ (calculated)
OEL STEL	60 ppm (calculated)
OEL chemical category	Potential for cutaneous absorption technical grade
Italy - Occupational Exposure Limits	
OEL chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	20 mg/m³
OEL TWA	5.5 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	35 mg/m³
IPRV (OEL TWA)	10 ppm
TPRV (OEL STEL)	90 mg/m³
TPRV (OEL STEL)	25 ppm
OEL chemical category	Carcinogen
Luxembourg - Occupational Exposure Limits	
OEL TWA	73 mg/m³
OEL TWA	20 ppm
Malta - Occupational Exposure Limits	
OEL TWA	73 mg/m³
OEL TWA	20 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	20 mg/m³
TGG-8u (OEL TWA)	5.5 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	50 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	73 mg/m³ (indicative limit value)
OEL TWA	20 ppm (indicative limit value)
OEL chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, skin - potential for cutaneous exposure
Romania - Occupational Exposure Limits	
OEL TWA	73 mg/m³
OEL TWA	20 ppm
OEL chemical category	C2, skin notation
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	73 mg/m³

# Safety Data Sheet

1,4-Dioxane (123-91-1)		
NPHV (OEL TWA)	20 ppm	
NPHV (OEL C)	146 mg/m³	
Slovenia - Occupational Exposure Limits		
OEL TWA	73 mg/m³	
OEL TWA	20 ppm	
OEL STEL	146 mg/m³	
OEL STEL	40 ppm	
OEL chemical category	Category 2, Potential for cutaneous absorption	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA)	73 mg/m³ (indicative limit value)	
VLA-ED (OEL TWA)	20 ppm (indicative limit value)	
OEL chemical category	C1B	
Sweden - Occupational Exposure Limits		
NGV (OEL TWA)	35 mg/m³	
NGV (OEL TWA)	10 ppm	
KGV (OEL STEL)	90 mg/m³	
KGV (OEL STEL)	25 ppm	
OEL chemical category	Carcinogen	
United Kingdom - Occupational Exposure Limits		
WEL TWA (OEL TWA)	91 mg/m³	
WEL TWA (OEL TWA)	25 ppm	
WEL STEL (OEL STEL)	366 mg/m³	
WEL STEL (OEL STEL)	100 ppm	
WEL chemical category	Potential for cutaneous absorption	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA)	18 mg/m³	
Grenseverdi (OEL TWA)	5 ppm	
Korttidsverdi (OEL STEL)	36 mg/m³ (value from the regulation)	
Korttidsverdi (OEL STEL)	10 ppm (value from the regulation)	
OEL chemical category	skin notation, Carcinogen	
Switzerland - Occupational Exposure Limits	Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	72 mg/m³	
MAK (OEL TWA)	20 ppm	
KZGW (OEL STEL)	144 mg/m³	
KZGW (OEL STEL)	40 ppm	
OEL chemical category	skin notation, Category C2 carcinogen	
Switzerland - BAT (BLV)		
BAT (BLV)	400 mg/g Kreatinin Parameter: 2-Hydroxy-ethoxyacetic acid - Medium: urine - Sampling time: end of shift Parameter: 2-Hydroxy-ethoxyacetic acid - Medium: urine - Sampling time: end of shift	

# Safety Data Sheet

1,4-Dioxane (123-91-1)		
Turkey - Occupational Exposure Limits		
OEL TWA	73 mg/m³	
OEL TWA	20 ppm	
USA - ACGIH - Occupational Exposure Limits		
Local name	1,4-Dioxane	
ACGIH® TLV® TWA	72 mg/m³	
ACGIH® TLV® TWA	20 ppm	
Remark (ACGIH®)	TLV® Basis: Liver dam. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)	
ACGIH® chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans, Skin - potential significant contribution to overall exposure by the cutaneous route	
Regulatory reference	ACGIH 2025	
Acetaldehyde (75-07-0)		
Austria - Occupational Exposure Limits		
MAK (OEL TWA)	90 mg/m³	
	50 ppm	
MAK (OEL STEL)	90 mg/m³	
	50 ppm	
OEL C	90 mg/m³	
	50 ppm	
OEL chemical category	Group B Carcinogen	
Belgium - Occupational Exposure Limits		
OEL TWA	25 ppm	
Bulgaria - Occupational Exposure Limits		
OEL TWA	30 mg/m³	
OEL STEL	200 mg/m³	
Croatia - Occupational Exposure Limits		
GVI (OEL TWA)	37 mg/m³	
	20 ppm	
KGVI (OEL STEL)	92 mg/m³	
	50 ppm	
Czech Republic - Occupational Exposure Limits		
PEL (OEL TWA)	50 mg/m³	
Denmark - Occupational Exposure Limits		
OEL C	45 mg/m³	
	25 ppm	
Estonia - Occupational Exposure Limits		
OEL TWA	45 mg/m³	
	25 ppm	

# Safety Data Sheet

Acetaldehyde (75-07-0)	
OEL STEL	90 mg/m³
	50 ppm
OEL chemical category	Carcinogenic substance
Finland - Occupational Exposure Limits	
HTP (OEL STEL)	46 mg/m³
	25 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	180 mg/m³
	100 ppm
OEL chemical category	Carcinogen category 1B, Mutagen category 2
Germany - Occupational Exposure Limits (TRGS 90	00)
AGW (OEL TWA)	91 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
	50 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Greece - Occupational Exposure Limits	
OEL TWA	180 mg/m³
	100 ppm
OEL STEL	270 mg/m³
	150 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	45 mg/m³
CK (OEL STEL)	45 mg/m³
Ireland - Occupational Exposure Limits	
OEL STEL	45 mg/m³
	25 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	45 mg/m³
	25 ppm
TPRV (OEL STEL)	90 mg/m³
	50 ppm
OEL chemical category	Carcinogen
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	37 mg/m³
	20 ppm
TGG-15min (OEL STEL)	92 mg/m³
	50 ppm

# Safety Data Sheet

Acetaldehyde (75-07-0)	
Poland - Occupational Exposure Limits	
NDSP (OEL C)	45 mg/m³
Portugal - Occupational Exposure Limits	
OEL C	25 ppm
OEL chemical category	A2 - Suspected Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	90 mg/m³
	50 ppm
OEL STEL	180 mg/m³
	100 ppm
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	91 mg/m³
	50 ppm
Slovenia - Occupational Exposure Limits	
OEL TWA	91 mg/m³
	50 ppm
OEL STEL	91 mg/m³
	50 ppm
OEL chemical category	Category 2
Spain - Occupational Exposure Limits	
VLA-EC (OEL STEL)	46 mg/m³
	25 ppm
OEL chemical category	C1B
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	45 mg/m³
	25 ppm
KGV (OEL STEL)	90 mg/m³
	50 ppm
OEL chemical category	Carcinogen
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	37 mg/m³
	20 ppm
WEL STEL (OEL STEL)	92 mg/m³
	50 ppm
WEL chemical category	Capable of causing cancer and/or heritable genetic damage
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	45 mg/m³
	25 ppm
Korttidsverdi (OEL STEL)	67.5 mg/m³ (value calculated)

# Safety Data Sheet

OEL chemical category     Qarcinogen       Switzerland - Occupational Exposure Limits     90 mg/m²       KZGW (OEL SYEL)     90 mg/m²       OEL chemical category     Descriptional Exposure Limits       Local name     Acetaidehyde       ACGIHB 7 LV® C     25 ppm       Romark (ACGIHB)     Acetaidehyde       ACGIHB 7 LV® C     25 ppm       Romark (ACGIHB)     TLV® Basis: Eye & URT in: Notations: A2 (Suspected Human Carcinogen)       ACGIHB chemical category     Suspected Human Carcinogen       Regulatory reference     ACGIH 2023       Ethylene oxide (75-21-8)     15 ppm       EU - Indicative Occupational Exposure Limit (IOEL)     1 ppm       Remark     Present (Substantial contribution to the total body burden via demail exposure possible)       Austria - Occupational Exposure Limits     1 ppm       TRK (OEL TWA)     1.8 mg/m²       1 ppm       OEL chemical category     skin notation, Group A2 Carcinogen       Belgium - Occupational Exposure Limits     Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible       Bulgaria - Occupational Exposure Limits     Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible       Bulgaria - Occupational Exposure Limits     Skin, Carcinogen Category is skin notation significant contribution to the total body	Acetaldehyde (75-07-0)		
Switzerland - Occupational Exposure Limits  MAK (OEL TWA) 50 ppm  KZGW (OEL STEL) 90 mg/m² 50 ppm  OEL chemical category Category C2 carcinogen  USA - ACGIH - Occupational Exposure Limits  Local name Acctaldehyde  ACGIH90 TLV® C 25 ppm Remark (ACGIH8) TLV® Casis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen)  ACGIH90 TLV® C Remark (ACGIH8) ACGIH90 chemical category Suspected Human Carcinogen  ACGIH 2023  Ethylene oxide (75-21-8)  EU - Indicative Occupational Exposure Limit (IOEL)  OEL TWA 18 mg/m² 1 ppm  Remark Present (Substantial contribution to the total body burden via dermal exposure possible)  Austria - Occupational Exposure Limit (IOEL)  OEL CHAMA 18 mg/m² 1 ppm  OEL chemical category Sinn notation, Group A2 Carcinogen  Balgium - Occupational Exposure Limits  OEL TWA 18 mg/m² 1 ppm  OEL chemical category Sinn notation significant contribution to the total accumulation in the body through sin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA 18 mg/m² 1 ppm  OEL chemical category Sinn notation significant contribution to the total accumulation in the body through sin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA 18 mg/m² 1 ppm  Croatia - Occupational Exposure Limits  Croatia - Occupational Exposure Limits  OEL TWA 18 mg/m² 1 ppm  Croatia - Occupational Exposure Limits  Croatia - Occupational Exposure Limits  Croatia - Occupational Exposure Limits  OEL chemical category Carcinogen Category 18, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 18  OEL Chemical Category 18  OEL Chemical Category 18  OEL Chemical Exposure Limits  OEL Chemical Category 18  OEL TWA 18  OEL TWA 18  OEL		37.5 ppm (value calculated)	
Mark (OEL TWA)   90 mg/m²   50 ppm	OEL chemical category	Carcinogen	
KZGW (OEL STEL)  50 ppm  CEL chemical category  Category C2 carcinogen  CEL chemical category  Category C2 carcinogen  CACGIH-O-Ccupational Exposure Limits  Local name  ACGIH-O-Ccupational Exposure Limits  CACGIH-O-Ccupational Exposure Limits  CEL - Indicative Occupational Exposure Limit (IOEL)  IOEL TWA  ACGIH-O-Ccupational Exposure Limit (IOEL)  IOEL TWA  AUSTIA - Occupational Exposure Limits  TK (OEL TWA)  AUSTIA - Occupational Exposure Limits  CEL chemical category  Sun notation. Group A2 Carcinogen  Seligium - Occupational Exposure Limits  CEL TWA  1 apm  CEL chemical category  Sinn notation. Group A2 Carcinogen  Sinn notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  CEL TWA  1 apm  CEL chemical category  Sinn, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  CEL TWA  1 apm  C	Switzerland - Occupational Exposure Limits		
Section   Sect	MAK (OEL TWA)	90 mg/m³	
So ppm		50 ppm	
USA - ACGIH - Occupational Exposure Limits Local name Acetaldehyde ACGIH® TLV® C 25 ppm Remark (ACGIH®) TLV® Basis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen) ACGIH® chemical category Suspected Human Carcinogen Remark (ACGIH®) ACGIH® ACGIN® ACCIN® ACCI	KZGW (OEL STEL)	90 mg/m³	
USA - ACGIH - Occupational Exposure Limits  Local name Acetaldehyde  AGGIH® TLV® C 25 ppm  Remark (ACGIH®) TLV® Dassis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen)  ACGIH® chemical category Suspected Human Carcinogen  Regulatory reference ACGIH 2023  Ethylene exide (75-21-8)  EU - Indicative Occupational Exposure Limit (IOEL TWA)  18 mg/m³ 1 ppm  Remark Present (Substantial contribution to the total body burden via dermal exposure possible)  Austria - Occupational Exposure Limits  TRK (OEL TWA)  18 mg/m³ 1 ppm  OEL chemical category skin notation, Group A2 Carcinogen  Biolgium - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Biolgaria - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL Chemical category Skin, Skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  18 mg/m³ 1 ppm		50 ppm	
Local name         Acetaldehyde           ACGIH® TLV® C         25 ppm           Remark (ACGIH®)         TLV® Basis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen)           ACGIH® chemical category         Suspected Human Carcinogen           Regulatory reference         ACGIH 2023           Ethylene oxide (75-21-8)           EU - Indicative Occupational Exposure Limit (IOEL)           IOEL TWA         1.8 mg/m³           Present (Substantial contribution to the total body burden via dermal exposure possible)           Austria - Occupational Exposure Limits           TRK (OEL TWA)         1.8 mg/m³           1 ppm         1.8 mg/m³           1 ppm         1.8 mg/m³           OEL chemical category         skin notation, Group A2 Carcinogen           Belgium - Occupational Exposure Limits           OEL chemical category         skin, Carcinogen, skin notation significant contribution to the total accumulation in the body brough skin exposure is possible           Bulgaria - Occupational Exposure Limits           OEL TWA         1.8 mg/m³           1 ppm         1 ppm           Croatia - Occupational Exposure Limits           Croatia - Occupational Exposure Limits <td c<="" td=""><td>OEL chemical category</td><td>Category C2 carcinogen</td></td>	<td>OEL chemical category</td> <td>Category C2 carcinogen</td>	OEL chemical category	Category C2 carcinogen
ACGIH® TLV® C Remark (ACGIH®) TLV® Basis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen) ACGIH® chemical category Suspected Human Carcinogen Regulatory reference ACGIH 2023  Ethylene oxide (75-21-8)  EU - Indicative Occupational Exposure Limit (IOEL) TOEL TWA Is mg/m³ Ippm Remark Austria - Occupational Exposure Limits  TKK (OEL TWA) Is mg/m³ Ippm  CEL chemical category Austria - Occupational Exposure Limits  Eligium - Occupational Exposure Limits  Eligiaria - Occupational Exposure Limits  Eligiar	USA - ACGIH - Occupational Exposure Limits		
Remark (ACGIH®) TLV® Basis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen) ACGIH® chemical category Suspected Human Carcinogen Regulatory reference ACGIH 2023	Local name	Acetaldehyde	
ACGIH9 chemical category Regulatory reference ACGIH 2023  Ethylene oxide (75-21-8)  EU - Indicative Occupational Exposure Limit (IOEL)  TOEL TWA  1 spm  Remark Present (Substantial contribution to the total body burden via dermal exposure possible)  Austria - Occupational Exposure Limits  TRK (OEL TWA) 1 spm  1 s mg/m³ 1 ppm  OEL chemical category 8 kin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA 1 smg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA 1 smg/m³ 1 ppm  OEL thylene Coccupational Exposure Limits  OEL TWA 1 smg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OEL TWA 1 smg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OYI (OEL TWA) 1 smg/m³ 1 ppm  Croatia - Occupational Exposure Limits  OYI (OEL TWA) 2 smg/m³ 3 ppm  Croatia - Occupational Exposure Limits  OYI (OEL TWA) 3 smg/m³ 1 ppm  OEL chemical category Croatia - Occupational Exposure Limits  OYI (OEL TWA) 1 smg/m³ 1 ppm  OEL chemical category 1 skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cryprus - Occupational Exposure Limits  OYPrus - Occupational Exposure Limits  OYPrus - Occupational Exposure Limits	ACGIH® TLV® C	25 ppm	
Regulatory reference   ACGIH 2023     Ethylene oxide (75-21-8)     EU - Indicative Occupational Exposure Limit (IOEL)     1.8 mg/m³     1 ppm       1.8 mg/m³     1 ppm         1.8 mg/m³     1 ppm           1 ppm	Remark (ACGIH®)	TLV® Basis: Eye & URT irr. Notations: A2 (Suspected Human Carcinogen)	
Ethylene oxide (75-21-8)  EU - Indicative Occupational Exposure Limit (IOEL)  IOEL TWA  1 ppm  Remark  Present (Substantial contribution to the total body burden via dermal exposure possible)  Austria - Occupational Exposure Limits  TRK (OEL TWA)  1 ppm  OEL chemical category  8 kin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA  1 ppm  OEL chemical category  Skin. Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  2 la mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category  1.8 mg/m³ 1 ppm  OEL chemical category  1.8 mg/m³ 1 ppm  OEL chemical category  OEL chemical category  OEL chemical category  OEL chemical category  In pm  OEL chemical category  OEL chemic	ACGIH® chemical category	Suspected Human Carcinogen	
IOEL TWA    1.8 mg/m³   1 ppm	Regulatory reference	ACGIH 2023	
IOEL TWA    1.8 mg/m³   1 ppm	Ethylene oxide (75-21-8)		
Remark Present (Substantial contribution to the total body burden via dermal exposure possible)  Austria - Occupational Exposure Limits  TRK (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category skin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen, Skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1 ppm  OEL Chemical Category 1B  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B	EU - Indicative Occupational Exposure Limit (IOEL	.)	
Remark Present (Substantial contribution to the total body burden via dermal exposure possible)  Austria - Occupational Exposure Limits  TRK (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category skin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	IOEL TWA	1.8 mg/m³	
Austria - Occupational Exposure Limits  TRK (OEL TWA)  1 ppm  OEL chemical category  8kin notation, Group A2 Carcinogen  8elgium - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category  Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  8ulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³		1 ppm	
TRK (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category skin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Cyprus - Occupational Exposure Limits  1.8 mg/m³  1 ppm  1.8 mg/m³  1 ppm  Cyprus - Occupational Exposure Limits	Remark	Present (Substantial contribution to the total body burden via dermal exposure possible)	
OEL chemical category skin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA 1.8 mg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA 1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA) 1.8 mg/m³ 1 ppm  OEL chemical category 2.18 mg/m³ 1 ppm  OEL chemical category 3.18 mg/m³ 1 ppm  OEL chemical category 4.18 mg/m³ Carcinogen Category 18, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA 1.8 mg/m³	Austria - Occupational Exposure Limits		
DEL chemical category  Skin notation, Group A2 Carcinogen  Belgium - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA) 1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	TRK (OEL TWA)	1.8 mg/m³	
Belgium - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1 ppm  1.8 mg/m³ 1 ppm		1 ppm	
OEL TWA  1.8 mg/m³  1 ppm  OEL chemical category  Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³  1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1 ppm	OEL chemical category	skin notation, Group A2 Carcinogen	
Topm  OEL chemical category Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1 ppm  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	Belgium - Occupational Exposure Limits		
OEL chemical category  Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1 ppm  1.8 mg/m³ 1 ppm	OEL TWA	1.8 mg/m³	
body through skin exposure is possible  Bulgaria - Occupational Exposure Limits  OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1.8 mg/m³		1 ppm	
OEL TWA  1.8 mg/m³ 1 ppm  Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1.8 mg/m³	OEL chemical category		
Toatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	Bulgaria - Occupational Exposure Limits		
Croatia - Occupational Exposure Limits  GVI (OEL TWA)  1.8 mg/m³ 1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	OEL TWA	1.8 mg/m³	
GVI (OEL TWA)  1.8 mg/m³  1 ppm  OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³  1.8 mg/m³		1 ppm	
1 ppm  OEL chemical category Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	Croatia - Occupational Exposure Limits		
OEL chemical category  Carcinogen Category 1B, skin notation significant contribution to the total body load possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³	GVI (OEL TWA)	1.8 mg/m³	
possible exposure through the skin, Mutagen Category 1B  Cyprus - Occupational Exposure Limits  OEL TWA  1.8 mg/m³		1 ppm	
OEL TWA 1.8 mg/m³	OEL chemical category		
1	Cyprus - Occupational Exposure Limits		
1 ppm	OEL TWA	1.8 mg/m³	
		1 ppm	

# Safety Data Sheet

Ethylene oxide (75-21-8)		
OEL chemical category	Skin-potential for cutaneous absorption	
Czech Republic - Occupational Exposure Limits		
PEL (OEL TWA)	1 mg/m³	
OEL chemical category	Potential for cutaneous absorption	
Czech Republic - Biological limit values		
BLV	Parameter: N-(2-Hydroxyethyl)valine - Medium: blood - Sampling time: discretionary (in Globin) Parameter: N-(2-Hydroxyethyl)valine - Medium: blood - Sampling time: discretionary (in Globin)	
Denmark - Occupational Exposure Limits		
OEL TWA	1.8 mg/m³	
	1 ppm	
OEL STEL	3.6 mg/m³	
	2 ppm	
OEL chemical category	Potential for cutaneous absorption	
Estonia - Occupational Exposure Limits		
OEL TWA	1.8 mg/m³	
	1 ppm	
OEL STEL	9 mg/m³	
	5 ppm	
OEL chemical category	skin notation, Carcinogenic substance	
Finland - Occupational Exposure Limits		
HTP (OEL TWA)	1.8 mg/m³	
	1 ppm	
OEL chemical category	Potential for cutaneous absorption	
France - Occupational Exposure Limits		
VME (OEL TWA)	1.8 mg/m³ (restrictive limit)	
	1 ppm (restrictive limit)	
OEL chemical category	Carcinogen category 1B, Reproductive Toxin category 1B, Mutagen category 1B, Risk of cutaneous absorption	
Greece - Occupational Exposure Limits		
OEL TWA	1.8 mg/m³	
	1 ppm	
OEL chemical category	skin - potential for cutaneous absorption	
Hungary - Occupational Exposure Limits		
AK (OEL TWA)	1.8 mg/m³	
OEL chemical category	Sensitizer, Potential for cutaneous absorption, Carc. 1B - Presumed Carcinogen, Muta1B	
Ireland - Occupational Exposure Limits		
OEL TWA	1.8 mg/m³	
	1 ppm	

# Safety Data Sheet

Ethylene oxide (75-21-8)	
OEL STEL	5.4 mg/m³ (calculated)
	3 ppm (calculated)
OEL chemical category	Carc1B, Potential for cutaneous absorption
Italy - Occupational Exposure Limits	
OEL TWA	1.8 mg/m³
	1 ppm
OEL chemical category	skin - potential for cutaneous absorption
Latvia - Occupational Exposure Limits	
OEL TWA	1 mg/m³
	0.55 ppm
OEL chemical category	skin - potential for cutaneous exposure
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	1.8 mg/m³
	1 ppm
TPRV (OEL STEL)	9 mg/m³
	5 ppm
OEL chemical category	Mutagen, Carcinogen, skin notation
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	0.84 mg/m³
	0.46 ppm
MAC chemical category	skin notation
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	1 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	1.8 mg/m³
	1 ppm
OEL chemical category	A2 - Suspected Human Carcinogen, skin - potential for cutaneous exposure indicative limit value
Romania - Occupational Exposure Limits	
OEL TWA	1.8 mg/m³
	1 ppm
OEL chemical category	C1B, skin notation
Slovenia - Occupational Exposure Limits	
OEL TWA	1.8 mg/m³
	1 ppm
OEL chemical category	Category 1B, Potential for cutaneous absorption
Spain - Occupational Exposure Limits	·
VLA-ED (OEL TWA)	1.8 mg/m³ (carcinogenic agent with a binding limit value included in annex III of Royal Decree 665/1997 and its subsequent amendments)

# Safety Data Sheet

Ethylene oxide (75-21-8)	
	1 ppm (carcinogenic agent with a binding limit value included in annex III of Royal Decree 665/1997 and its subsequent amendments)
OEL chemical category	C1B, M1B, TR1B, skin - potential for cutaneous absorption
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	1.8 mg/m³
	1 ppm
KGV (OEL STEL)	9 mg/m³
	5 ppm
OEL chemical category	skin notation, Carcinogen
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	9.2 mg/m³
	5 ppm
WEL STEL (OEL STEL)	5.4 mg/m³ (calculated)
	3 ppm (calculated)
WEL chemical category	Potential for cutaneous absorption, Capable of causing cancer and/or heritable genetic damage
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	1.8 mg/m³
	1 ppm
Korttidsverdi (OEL STEL)	3.6 mg/m³ (value calculated)
	3 ppm (value calculated)
OEL chemical category	skin notation, Carcinogen
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	1.8 mg/m³
	1 ppm
OEL chemical category	skin notation, Category C1B carcinogen, Category 1B mutagen
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethylene oxide
ACGIH® TLV® TWA	1 ppm
Remark (ACGIH®)	TLV® Basis: Cancer; CNS impair. Notations: A2 (Suspected Human Carcinogen)
ACGIH® chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	Ethylene oxide
BEI (BLV)	5000 pmol/g Globin Parameter: N-(2-hydroxyethyl)valine (HEV) - Medium: hemoglobin adducts - Sampling time: Not critical - Notations: Ns 5 µg/g Kreatinin Parameter: S-(2-hydroxyethyl)mercapturic acid (HEMA) - Medium: urine - Sampling time: End of shift - Notations: Pop, Ns
Remark	The value of HEV hemoglobin adducts applies to workers having representative Ethylene oxide exposure during the previous 120 days
Regulatory reference	ACGIH 2024

# Safety Data Sheet

Distillates, petroleum, hydrotreated heavy na	phthenic (64742-52-5)
USA - ACGIH - Occupational Exposure Limits	
Remark (ACGIH®)	OELs not established
Silica, amorphous, precipitated and gel (1129	26-00-8)
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	4 mg/m³ inhalable aerosol
Belgium - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Bulgaria - Occupational Exposure Limits	
OEL TWA	10 mg/m³ (inhalable fraction (free Silicon dioxide, amorphous, synthetic, derived from sedimentation processes)
Denmark - Occupational Exposure Limits	
OEL TWA	2 mg/m³ inhalable aerosol
OEL STEL	4 mg/m³ inhalable aerosol
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	5 mg/m³
Germany - Occupational Exposure Limits (TRGS 90	00)
AGW (OEL TWA)	4 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA	6 mg/m³ inhalable aerosol 2.4 mg/m³ respirable aerosol
Latvia - Occupational Exposure Limits	
OEL TWA	1 mg/m³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	10 mg/m³ (inhalable fraction) 2 mg/m³ (respirable fraction)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	6 mg/m³ inhalable aerosol 2.4 mg/m³ respirable aerosol
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	4 mg/m³ inhalable aerosol
Sodium nitrate (7631-99-4)	
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	6 mg/m³ (dust)
USA - ACGIH - Occupational Exposure Limits	
Remark (ACGIH®)	OELs not established
Sodium carbonate (497-19-8)	
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	5 mg/m³
Romania - Occupational Exposure Limits	
OEL TWA	1 mg/m³
OEL STEL	3 mg/m³

# Safety Data Sheet

Sodium carbonate (497-19-8)			
USA - ACGIH - Occupational Exposure Limits			
Remark (ACGIH®)  OELs not established			
Acrylamide (79-06-1)			
EU - Indicative Occupational Exposure Limit (IOEL)			
IOEL TWA	0.1 mg/m³		
Remark	Present (Substantial contribution to the total body burden via dermal exposure possible)		
Austria - Occupational Exposure Limits			
TRK (OEL TWA)	0.06 mg/m³ (with the aid of solid Acrylamide-inhalable fraction) 0.03 mg/m³ (all others-inhalable fraction)		
OEL chemical category	skin notation, Group A2 Carcinogen, Skin sensitizer		
Belgium - Occupational Exposure Limits			
OEL TWA	0.03 mg/m³		
OEL chemical category	Skin, Carcinogen, skin notation significant contribution to the total accumulation in the body through skin exposure is possible		
Bulgaria - Occupational Exposure Limits			
OEL TWA	0.1 mg/m³		
Croatia - Occupational Exposure Limits	Croatia - Occupational Exposure Limits		
GVI (OEL TWA)	0.1 mg/m³		
OEL chemical category	Carcinogen Category 1B, skin notation, Mutagen Category 1B		
Cyprus - Occupational Exposure Limits			
OEL TWA	0.1 mg/m³		
OEL chemical category	Skin-potential for cutaneous absorption		
Czech Republic - Occupational Exposure Limits			
PEL (OEL TWA)	0.1 mg/m³ (7)		
OEL chemical category	Potential for cutaneous absorption, Sensitizer		
Denmark - Occupational Exposure Limits			
OEL TWA	0.03 mg/m³		
OEL STEL	0.06 mg/m³		
OEL chemical category	Potential for cutaneous absorption		
Estonia - Occupational Exposure Limits			
OEL TWA	0.03 mg/m³		
OEL STEL	0.1 mg/m³		
OEL chemical category	skin notation, Carcinogenic substance		
Finland - Occupational Exposure Limits			
HTP (OEL TWA)	0.03 mg/m³ 0.1 mg/m³ (may cause sensitization)		
OEL chemical category	Potential for cutaneous absorption		
France - Occupational Exposure Limits			
VME (OEL TWA)	0.1 mg/m³ (restrictive limit)		

# Safety Data Sheet

Acrylamide (79-06-1)		
OEL chemical category	Carcinogen category 1B, Reproductive Toxin category 2, Mutagen category 1B, Risk of cutaneous absorption	
Greece - Occupational Exposure Limits		
OEL TWA 0.1 mg/m³		
OEL chemical category	skin - potential for cutaneous absorption	
Hungary - Occupational Exposure Limits		
AK (OEL TWA)	0.1 mg/m³	
OEL chemical category	Potential for cutaneous absorption, Carc. 1B - Presumed Carcinogen	
Ireland - Occupational Exposure Limits		
OEL TWA	0.1 mg/m³	
OEL STEL	0.3 mg/m³ (calculated)	
OEL chemical category	Carc1B, Potential for cutaneous absorption	
Italy - Occupational Exposure Limits		
OEL TWA	0.1 mg/m³	
OEL chemical category	skin - potential for cutaneous absorption	
Latvia - Occupational Exposure Limits		
OEL TWA	0.1 mg/m³	
OEL chemical category	skin - potential for cutaneous exposure	
Lithuania - Occupational Exposure Limits		
IPRV (OEL TWA)	0.03 mg/m³	
TPRV (OEL STEL)	0.1 mg/m³	
OEL chemical category	Reproductive toxin, Mutagen, Carcinogen, skin notation	
Netherlands - Occupational Exposure Limits		
TGG-8u (OEL TWA)	0.1 mg/m³	
MAC chemical category	skin notation	
Poland - Occupational Exposure Limits		
NDS (OEL TWA)	0.07 mg/m³	
Portugal - Occupational Exposure Limits		
OEL TWA	0.03 mg/m³ (inhalable fraction; vapor)	
OEL chemical category	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, skin - potential for cutaneous exposure indicative limit value	
Romania - Occupational Exposure Limits		
OEL TWA	0.1 mg/m³	
OEL chemical category	C1B, skin notation	
Slovenia - Occupational Exposure Limits		
OEL TWA	0.1 mg/m³	
OEL chemical category	Category 2, Category 1B, Potential for cutaneous absorption	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA)	0.03 mg/m³ (manufacturing, commercialization and use restrictions according to REACH-inhalable fraction and vapor)	

# Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Acrylamide (79-06-1)		
DEL chemical category  C1B, M1B, Sensitizer, skin - potential for cutaneous absorption		
Sweden - Occupational Exposure Limits		
NGV (OEL TWA)	0.03 mg/m³	
KGV (OEL STEL)	0.1 mg/m³	
OEL chemical category	skin notation, Carcinogen	
United Kingdom - Occupational Exposure Limits		
WEL TWA (OEL TWA)	0.1 mg/m³	
WEL STEL (OEL STEL)	0.3 mg/m³ (calculated)	
WEL chemical category	Potential for cutaneous absorption, Capable of causing cancer and/or heritable genetic damage	
Norway - Occupational Exposure Limits		
Grenseverdi (OEL TWA)	0.03 mg/m³	
Korttidsverdi (OEL STEL)	0.09 mg/m³ (value calculated)	
OEL chemical category	skin notation, Carcinogen, Potential mutagen	
Switzerland - Occupational Exposure Limits		
MAK (OEL TWA)	0.03 mg/m³ (inhalable dust)	
OEL chemical category	Sensitizer, skin notation, Category C1B carcinogen, Category 2 reproductive toxin, Category 1B mutagen	
USA - ACGIH - Occupational Exposure Limits		
Local name	Acrylamide	
ACGIH® TLV® TWA	0.03 mg/m³ (inhalable fraction and vapor)	
Remark (ACGIH®)	TLV® Basis: CNS & PNS impair; cancer. Notations: Skin; DSEN; A2 (Suspected Human Carcinogen)	
ACGIH® chemical category	Suspected Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route, dermal sensitizer	
Regulatory reference	ACGIH 2024	
USA - ACGIH - Biological Exposure Indices		
Local name	Acrylamide	
BEI (BLV)	Parameter: N-(2-Carbamoylethyl)valine - Medium: blood - Sampling time: not critical (after 120 days of representative work/exposure to Acrylamide, background) 800 µg/g Kreatinin Parameter: S-(2-Carbamoylethyl)mercapturic acid - Medium: urine - Sampling time: end of shift (background)	
Remark	The value of CbEV: after 120 days of representative work/exposure to acrylamide	
Regulatory reference	ACGIH 2024	

## 8.1.2. Recommended monitoring procedures

No additional information available

## 8.1.3. Air contaminants formed

No additional information available

## 8.1.4. DNEL and PNEC

No additional information available

## 8.1.5. Control banding

No additional information available

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

### Appropriate engineering controls:

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

### 8.2.2. Personal protection equipment

### Personal protective equipment:

Gloves. Protective goggles. Protective clothing.

### Personal protective equipment symbol(s):







### 8.2.2.1. Eye and face protection

#### Eye protection:

Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles [EN 166]

### 8.2.2.2. Skin protection

### Skin and body protection:

Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure. [EN 14605:2005 and EN 13034:2005]

### Hand protection:

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

### 8.2.2.3. Respiratory protection

### Respiratory protection:

Use NIOSH (or other equivalent national standard) -approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

### 8.2.2.4. Thermal hazards

No additional information available

## 8.2.3. Environmental exposure controls

No additional information available

## **SECTION 9: Physical and chemical properties**

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid Black. Color Appearance Syrupy liquid. Odor Ammonia-like. Odor threshold Not available Melting point Not available Freezing point Not available Boiling point Not available Flammability : Not available **Explosion limits** : Not available Lower explosion limit Not available Upper explosion limit Not available

Flash point : 67 °C (152.6 °F) (Butyl cellosolve value)

Auto-ignition temperature : Not available Decomposition temperature : Not available

10/21/2025 (Revision date) HCF® Black 30/36

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

рΗ : Not available Viscosity, kinematic : Not available Not available Solubility Partition coefficient n-octanol/water (Log Kow) Not available Vapor pressure Not available Vapor pressure at 50°C Not available Density Not available Relative density Not available Relative vapor density at 20°C : Not available Particle size : Not applicable : Not applicable Particle size distribution : Not applicable Particle shape : Not applicable Particle aspect ratio Particle aggregation state : Not applicable Particle agglomeration state : Not applicable Particle specific surface area : Not applicable Particle dustiness : Not applicable

### 9.2. Other information

## 9.2.1. Information with regard to physical hazard classes

No additional information available

### 9.2.2. Other safety characteristics

No additional information available

## **SECTION 10: Stability and reactivity**

## 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

## 10.2. Chemical stability

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

### 10.3. Possibility of hazardous reactions

None known.

## 10.4. Conditions to avoid

None known.

## 10.5. Incompatible materials

Oxidizing agent.

## 10.6. Hazardous decomposition products

Carbon oxides (CO, CO2).

# **SECTION 11: Toxicological information**

# 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Buty	Butyl cellosolve (111-76-2)	
LD50	O oral rat	470 mg/kg (Source: NLM_CIP)
LD50	) oral	1750 mg/kg body weight

# Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Butyl cellosolve (111-76-2)		
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)	
LD50 dermal rabbit	435 mg/kg (Source: OECD_SIDS)	
LD50 dermal	1100 mg/kg body weight	
LC50 Inhalation - Rat	3 mg/l/4h	
LC50 Inhalation - Rat [ppm]	486 ppm/4h	
Carbon black (1333-86-4)		
LD50 oral rat	> 15400 mg/kg	
LD50 dermal rat	> 2000 mg/kg (Source: ECHA)	
LD50 dermal rabbit	> 3 g/kg	
LC50 Inhalation - Rat	> 4.6 mg/m³ (Exposure time: 4 h Source: ECHA_API)	
Skin corrosion/irritation Serious eye damage/irritation Respiratory or skin sensitization Germ cell mutagenicity Carcinogenicity	<ul><li>: Not classified</li><li>: Not classified</li><li>: Not classified</li><li>: Not classified</li><li>: Suspected of causing cancer.</li></ul>	
Carbon black (1333-86-4)		
IARC group	2B - Possibly carcinogenic to humans	
Reproductive toxicity	: Not classified	
STOT-single exposure	: Not classified	
STOT-repeated exposure	: Not classified	
Aspiration hazard	: Not classified	

## 11.2. Information on other hazards

No additional information available

# **SECTION 12: Ecological information**

# 12.1. Toxicity

Ecology - general : No information available.

Hazardous to the aquatic environment, short-term : Not classified

Hazardous to the aquatic environment, long-term

: Not classified

(chronic)

Butyl cellosolve (111-76-2)	
LC50 - Fish [1]	1490 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static] Source: EPA)
LC50 - Fish [2]	2950 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus Source: IUCLID)
EC50 - Crustacea [1] > 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)	
EC50 72h - Algae [1]	911 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2] 1840 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous na Raphidocelis subcapitata, Selenastrum capricornutum)	
NOEC (chronic) 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'	
NOEC chronic fish	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '21 d'

HCF® Black 10/21/2025 (Revision date) 32/36

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Carbon black (1333-86-4)		
LC50 - Fish [1]	> 1000 mg/l Source: NITE	
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna	
EC50 72h - Algae [1]	> 10000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)	
EC50 72h - Algae [2]	> 10000 mg/l Test organisms (species):	
ErC50 algae	> 10000 mg/l Source: EHCA	

## 12.2. Persistence and degradability

Persistence and degradability No information available.

## 12.3. Bioaccumulative potential

Bioaccumulative potential No information available.

### 12.4. Mobility in soil

Ecology - soil No information available

### 12.5. Results of PBT and vPvB assessment

Component	
,	PBT: not yet assessed vPvB: not yet assessed
Acrylamide (79-06-1)	This substance/mixture does not meet the PBT criteria of REACH, annex XIII This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

## 12.6. Endocrine disrupting properties

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## 12.7. Other adverse effects

No additional information available

## **SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control

authorities. No discharge to surface waters is allowed without a permit.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the

product to be released into the environment.

## **SECTION 14: Transport information**

In accordance with ADR / IMDG / IATA / ADN / RID

## 14.1. UN number or ID number

UN-No. (ADR) : Not regulated UN-No. (IMDG) : Not regulated UN-No. (IATA) : Not regulated UN-No. (ADN) : Not regulated UN-No. (RID) : Not regulated UN-No. (RID)

10/21/2025 (Revision date) HCF® Black 33/36

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

## 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated Proper Shipping Name (IMDG) : Not regulated Proper Shipping Name (IATA) : Not regulated Proper Shipping Name (ADN) : Not regulated Proper Shipping Name (RID) : Not regulated

## 14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

**IMDG** 

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

ADN

Transport hazard class(es) (ADN) : Not regulated

**RID** 

Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group (ADR) : Not regulated Packing group (IMDG) : Not regulated Packing group (IATA) : Not regulated Packing group (ADN) : Not regulated Packing group (RID) : Not regulated

### 14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

## 14.6. Special precautions for user

### **Overland transport**

Not regulated for transport

## Transport by sea (IMDG)

Not regulated for transport

## Air transport (IATA)

Not regulated for transport

## Inland waterway transport

Not regulated for transport

### Rail transport

Not regulated for transport

## 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### **SECTION 15: Regulatory information**

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.1.1. EU-Regulations

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

Contains substance(s) listed on the PIC list

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

#### 15.1.2. National regulations

All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb. 2019, as amended Feb. 2021, or are otherwise exempt or regulated by other agencies such as FDA or FIFRA

### Germany

Water hazard class (WGK) : WGK 1, slightly hazardous to water (Classification according to AwSV, Annex 1)

Override matching entry (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

**Netherlands** 

SZW-lijst van kankerverwekkende stoffen : Acrylonitrile,1,4-Dioxane,Acetaldehyde,Ethylene oxide,Distillates, petroleum, hydrotreated

heavy naphthenic, Acrylamide are listed

SZW-lijst van mutagene stoffen : Ethylene oxide, Distillates, petroleum, hydrotreated heavy naphthenic, Acrylamide are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – : Ethylene oxide, Acrylamide are listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling

: Ethylene oxide is listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

Pregnant/breastfeeding women working with the product must not be in direct contact with

the product

The requirements from the Danish Working Environment Authorities regarding work with

carcinogens must be followed during use and disposal

**Switzerland** 

Storage class (LK) : LK 6.1 - Toxic materials

## 15.2. Chemical safety assessment

No additional information available

## **SECTION 16: Other information**

Full text of H- and EUH-phrases	
Carc. 2	Carcinogenicity Category 2
H351	Suspected of causing cancer.

Abbreviations and acr	Abbreviations and acronyms	
ACGIH	American Conference of Government Industrial Hygienists	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road	
CAS-No.	Chemical Abstract Service number	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008	
DNEL	Derived-No Effect Level	
EC50	Median effective concentration	
EC-No.	European Community number	
ED	Endocrine disrupting properties	

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acr	Abbreviations and acronyms	
EN	European Standard	
IATA	International Air Transport Association	
IMDG	International Maritime Dangerous Goods	
LD50	Median lethal dose	
OEL	Occupational Exposure Limit	
OSHA	Occupational Safety and Health Administration	
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
STOT	Specific target organ toxicity	
TRGS	Technical Rules for Hazardous Substances	
vPvB	Very Persistent and Very Bioaccumulative	
WGK	Water Hazard Class	

Data sources Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Classification for the USA in accordance with 29 CFR 1910.1200 (2024).

1999/45/EC, and amending Regulation (EC) No 1907/2006.

Classification for the EU in accordance with Regulation (EC) No 1272/2008 of the European

Parliament and of the Council of 16 December 2008 on classification, labelling and

packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and

ECHA (European Chemicals Agency).

Training advice Normal use of this product shall imply use in accordance with the instructions for use and

corresponding product packaging.

Indication of changes:

Revision 1.0: New SDS Created.

Revision 2.0: SDS Composition Updated

Revision 3.0: SDS Composition Updated

Revision 4.0: SDS Composition Updated

Other information Author: WJS

SDS prepared for Plasti Dip International, Inc. by:

Pace Analytical Services, Inc. Product Regulatory Services Group

1800 Elm Street

Minneapolis, MN 55414

**United States** 612-656-1175

paceSDS@pacelabs.com

	lassification and procedure used to derive the classification or mixtures according to Regulation (EC) 1272/2008 [CLP]	Classification procedure
Ca	arcinogenicity, Category 2	Specific concentration limit

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

10/21/2025 (Revision date) HCF® Black 36/36