SAFETY DATA SHEET

Issuing date 05-Apr-2011 **Revision Date** 16-May-2016 **Revision Number** 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product name Gram Crystal Violet
Cat No. : R40052, R40053, R40073

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

Recommended use Laboratory chemicals.
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Company
Remel
12076 Santa Fe Drive
Lenexa, KS 66215 United States
Telephone: 1-800-255-6730
Fax:1-800-621-8251

Supplier
Oxoid Ltd.
Wade Road
Basingstoke, Hants, UK
RG24 8PW
Telephone: +44 (0) 1256 841144.

E-mail address mbd-sds@thermofisher.com

1.4. Emergency telephone number

Carechem 24: +44 (0) 1865 407333

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification

Physical hazards
Flammable liquids — Category 3

Health hazards
Based on available data, the classification criteria are not met

Environmental hazards

Chronic aquatic toxicity — Category 3

2.2. Label elements

Signal word Warning

Hazard statements
H226 - Flammable liquid and vapour

H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P273 - Avoid release to the environment
P501 - Dispose of contents/ container to an approved waste disposal plant
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

2.3. Other hazards

No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS-No	EC-No.	Weight percent	GHS Classification
Ethyl alcohol	64-17-5	200-578-6	20	Flam. Liq. 2 (H225)
Methyl alcohol	67-56-1	200-659-6	1	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)
Phenol	108-95-2	EEC No. 203-632-7	<1.0	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Muta. 2 (H341) STOT RE 2 (H373)
C.I. Basic Violet 3	548-62-9	EEC No. 208-953-6	<1.0	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice If symptoms persist, call a physician.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Obtain medical attention.

Inhalation Move to fresh air. Get medical attention if symptoms occur.

Protection of first-aiders Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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

Notes to physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapours may form explosive mixtures with air. vapours may travel to source of ignition and flash back.

Hazardous combustion products
None under normal use conditions.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Ensure adequate ventilation. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Component	European Union	The United Kingdom	France	Belgium	Spain
Ethyl alcohol		TWA: 1000 ppm TWA; 1920 mg/m³ TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m³ STEL	TWA / VME: 1000 ppm (8 heures). TWA / VME: 1900 mg/m³ (8 heures). STEL / VLCT: 5000 ppm. STEL / VLCT: 9500 mg/m³.	TWA: 1000 ppm 8 uren TWA: 1907 mg/m³ 8 uren	STEL / VLA-EC: 1000 ppm (15 minutos). STEL / VLA-EC: 1910 mg/m³ (15 minutos).
Methyl alcohol	TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr Skin	WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL	TWA / VME: 200 ppm (8 heures). restrictive limit TWA / VME: 260 mg/m³ (8 heures). restrictive limit STEL / VLCT: 1000 ppm. STEL / VLCT: 1300 mg/m³. Peau	TWA: 200 ppm 8 uren TWA: 266 mg/m³ 8 uren STEL: 250 ppm 15 minuten STEL: 333 mg/m³ 15 minuten Huid	TWA / VLA-ED: 200 ppm (8 horas) TWA / VLA-ED: 266 mg/m³ (8 horas) Piel
Phenol	Possibility of significant uptake through the skin TWA: 2 ppm 8 hr TWA: 8 mg/m³ 8 hr STEL: 4 ppm 15 min STEL: 16 mg/m³ 15 min TWA: 7.8 mg/m³ 8 hr	STEL: 4 ppm 15 min STEL: 16 mg/m³ 15 min TWA: 2 ppm 8 hr TWA: 7.8 mg/m³ 8 hr Skin	TWA / VME: 2 ppm (8 heures). restrictive limit TWA / VME: 7.8 mg/m³ (8 heures). restrictive limit STEL / VLCT: 4 ppm. restrictive limit STEL / VLCT: 15.6 mg/m³. restrictive limit Peau	TWA: 2 ppm 8 uren TWA: 8 mg/m³ 8 uren STEL: 4 ppm 15 minuten STEL: 16 mg/m³ 15 minuten Huid	STEL / VLA-EC: 4 ppm (15 minutos). STEL / VLA-EC: 16 mg/m³ (15 minutos). TWA / VLA-ED: 2 ppm (8 horas) TWA / VLA-ED: 8 mg/m³ (8 horas) Piel

Component	Italy	Germany	Portugal	The Netherlands	Finland
Ethyl alcohol		500 ppm TWA; 960 mg/m³ TWA	TWA: 1000 ppm 8 horas	huid STEL: 1900 mg/m³ 15 minuten TWA: 260 mg/m³ 8 uren	TWA: 1000 ppm 8 tunteina TWA: 1900 mg/m³ 8 tunteina STEL: 1300 ppm 15 minuutteina STEL: 2500 mg/m³ 15 minuutteina
Methyl alcohol	TWA: 200 ppm 8 ore. Media Ponderata nel Tempo TWA: 260 mg/m³ 8 ore. Media Ponderata nel Tempo Pelle	200 ppm TWA; 270 mg/m³ TWA Skin absorber	STEL: 250 ppm 15 minutos TWA: 200 ppm 8 horas TWA: 260 mg/m³ 8 horas Pele	huid TWA: 133 mg/m³ 8 uren TWA: 100 ppm 8 uren	TWA: 200 ppm 8 tunteina TWA: 270 mg/m³ 8 tunteina STEL: 250 ppm 15 minuutteina STEL: 330 mg/m³ 15 minuutteina Iho
Phenol	TWA: 2 ppm 8 ore. Media Ponderata nel Tempo TWA: 8.0 mg/m³ 8 ore. Media Ponderata nel Tempo STEL: 4 ppm 15 minuti. Breve termine	TWA: 2 ppm (8 Stunden). AGW - exposure factor 2 TWA: 8 mg/m³ (8 Stunden). AGW - exposure factor 2 Haut	STEL: 4 ppm 15 minutos STEL: 16 mg/m³ 15 minutos TWA: 2 ppm 8 horas TWA: 8 mg/m³ 8 horas Pele	huid TWA: 8 mg/m³ 8 uren	TWA: 2 ppm 8 tunteina TWA: 8 mg/m³ 8 tunteina STEL: 4 ppm 15 minuutteina STEL: 16 mg/m³ 15 minuutteina Iho

	STEL: 16 mg/m³ 15 minuti. Breve termine Pelle				

Component	Austria	Denmark	Switzerland	Poland	Norway
Ethyl alcohol	MAK-KZW: 2000 ppm 15 Minuten MAK-KZW: 3800 mg/m³ 15 Minuten MAK-TMW: 1000 ppm 8 Stunden MAK-TMW: 1900 mg/m³ 8 Stunden	TWA: 1000 ppm 8 timer TWA: 1900 mg/m³ 8 timer	STEL: 1000 ppm 15 Minuten STEL: 1920 mg/m³ 15 Minuten TWA: 500 ppm 8 Stunden TWA: 960 mg/m³ 8 Stunden	TWA: 1900 mg/m³ 8 godzinach	TWA: 500 ppm 8 timer TWA: 950 mg/m³ 8 timer STEL: 500 ppm 15 minutter. STEL: 950 mg/m³ 15 minutter.
Methyl alcohol	Haut MAK-KZW: 800 ppm 15 Minuten MAK-KZW: 1040 mg/m³ 15 Minuten MAK-TMW: 200 ppm 8 Stunden MAK-TMW: 260 mg/m³ 8 Stunden	TWA: 200 ppm 8 timer TWA: 260 mg/m³ 8 timer Hud	Haut/Peau STEL: 800 ppm 15 Minuten STEL: 1040 mg/m³ 15 Minuten TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	STEL: 300 mg/m³ 15 minutach TWA: 100 mg/m³ 8 godzinach	TWA: 100 ppm 8 timer TWA: 130 mg/m³ 8 timer STEL: 100 ppm 15 minutter. STEL: 130 mg/m³ 15 minutter. Hud
Phenol	Haut MAK-KZW: 4 ppm 15 Minuten MAK-KZW: 16 mg/m³ 15 Minuten MAK-TMW: 2 ppm 8 Stunden MAK-TMW: 8 mg/m³ 8 Stunden	TWA: 1 ppm 8 timer TWA: 4 mg/m³ 8 timer Hud	Haut/Peau STEL: 5 ppm 15 Minuten STEL: 19 mg/m³ 15 Minuten TWA: 5 ppm 8 Stunden TWA: 19 mg/m³ 8 Stunden	STEL: 16 mg/m³ 15 minutach TWA: 7.8 mg/m³ 8 godzinach	TWA: 1 ppm 8 timer TWA: 4 mg/m³ 8 timer STEL: 1 ppm 15 minutter. listed in the List of Administrative Norms STEL: 4 mg/m³ 15 minutter. listed in the List of Administrative Norms Hud

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Ethyl alcohol	TWA: 1000 mg/m³	TWA-GVI: 1000 ppm 8 satima. TWA-GVI: 1900 mg/m³ 8 satima.	STEL: 1000 ppm 15 min		TWA: 1000 mg/m³ 8 hodinách. Ceiling: 3000 mg/m³
Methyl alcohol	TWA: 200 ppm TWA: 260.0 mg/m³ Skin notation	kože TWA-GVI: 200 ppm 8 satima. TWA-GVI: 260 mg/m³ 8 satima.	TWA: 200 ppm 8 hr. TWA: 260 mg/m³ 8 hr. STEL: 600 ppm 15 min STEL: 780 mg/m³ 15 min Skin	Skin-potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m³	TWA: 250 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 1000 mg/m³
Phenol	TWA: 2 ppm TWA: 8 mg/m³ STEL : 4 ppm STEL : 16 mg/m³ Skin notation	kože TWA-GVI: 2 ppm 8 satima. TWA-GVI: 8 mg/m³ 8 satima. STEL-KGVI: 4 ppm 15 minutama. STEL-KGVI: 16 mg/m³ 15 minutama.	TWA: 2 ppm 8 hr. TWA: 8 mg/m³ 8 hr. STEL: 4 ppm 15 min STEL: 16 mg/m³ 15 min Skin	Skin-potential for cutaneous absorption STEL: 16 mg/m³ STEL: 4 ppm TWA: 8 mg/m³ TWA: 2 ppm	TWA: 7.5 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 15 mg/m³

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Ethyl alcohol	TWA: 500 ppm 8 tundides. TWA: 1000 mg/m³ 8 tundides. STEL: 1000 ppm 15 minutites. STEL: 1900 mg/m³ 15 minutites.		TWA: 1000 ppm TWA: 1900 mg/m³	STEL: 7600 mg/m³ 15 percekben. CK TWA: 1900 mg/m³ 8 órában. AK	TWA: 1000 ppm 8 klukkustundum. TWA: 1900 mg/m³ 8 klukkustundum. Ceiling: 2000 ppm Ceiling: 3800 mg/m³
Methyl alcohol	Nahk TWA: 200 ppm 8 tundides. TWA: 260 mg/m³ 8 tundides. STEL: 250 ppm 15 minutites.	Skin notation TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr	skin - potential for cutaneous absorption STEL: 250 ppm STEL: 325 mg/m³ TWA: 200 ppm TWA: 260 mg/m³	TWA: 260 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 200 ppm 8 klukkustundum. TWA: 260 mg/m³ 8 klukkustundum. Skin notation Ceiling: 400 ppm Ceiling: 520 mg/m³

	STEL: 350 mg/m³ 15 minutites.				
Phenol	Nahk TWA: 2 ppm 8 tundides. TWA: 7.8 mg/m³ 8 tundides.	Skin notation TWA: 2 ppm 8 hr TWA: 8 mg/m³ 8 hr STEL: 16 mg/m³ 15 min STEL: 4 ppm 15 min	skin - potential for cutaneous absorption STEL: 4 ppm STEL: 16 mg/m³ TWA: 2 ppm TWA: 8 mg/m³	STEL: 16 mg/m³ 15 percekben. CK TWA: 8 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 1 ppm 8 klukkustundum. TWA: 4 mg/m³ 8 klukkustundum. Skin notation Ceiling: 2 ppm Ceiling: 8 mg/m³

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Ethyl alcohol	TWA: 1000 mg/m³	TWA: 500 ppm IPRD TWA: 1000 mg/m³ IPRD STEL: 1000 ppm STEL: 1900 mg/m³			TWA: 1000 ppm 8 ore TWA: 1900 mg/m³ 8 ore STEL: 5000 ppm 15 minute STEL: 9500 mg/m³ 15 minute
Methyl alcohol	skin - potential for cutaneous exposure TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm IPRD TWA: 260 mg/m³ IPRD Oda	Possibility of significant uptake through the skin TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	possibility of significant uptake through the skin TWA: 200 ppm TWA: 260 mg/m³	Skin notation TWA: 200 ppm 8 ore TWA: 260 mg/m³ 8 ore STEL: 5 ppm 15 minute
Phenol	skin - potential for cutaneous exposure STEL: 4 ppm STEL: 16 mg/m³ TWA: 2 ppm TWA: 8 mg/m³	TWA: 2 ppm IPRD TWA: 8 mg/m³ IPRD Oda STEL: 4 ppm STEL: 16 mg/m³	Possibility of significant uptake through the skin TWA: 2 ppm 8 Stunden TWA: 8 mg/m³ 8 Stunden STEL: 16 mg/m³ 15 Minuten STEL: 4 ppm 15 Minuten	possibility of significant uptake through the skin TWA: 2 ppm TWA: 8 mg/m³ STEL: 16 mg/m³ 15 minuti STEL: 4 ppm 15 minuti	Skin notation TWA: 2 ppm 8 ore TWA: 8 mg/m³ 8 ore STEL: 4 ppm 15 minute STEL: 16 mg/m³ 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Ethyl alcohol	TWA: 1000 mg/m³ STEL: 2000 mg/m³ vapor	Ceiling: 1920 mg/m³ TWA: 500 ppm TWA: 960 mg/m³	TWA: 1000 ppm 8 urah TWA: 1900 mg/m³ 8 urah STEL: 4000 ppm 15 minutah STEL: 7600 mg/m³ 15 minutah	STV: 1000 ppm 15 minuter STV: 1900 mg/m³ 15 minuter LLV: 500 ppm 8 timmar. LLV: 1000 mg/m³ 8 timmar.	
Methyl alcohol	TWA: 5 mg/m³ Skin notation STEL: 15 mg/m³ vapor	Potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm 8 urah TWA: 260 mg/m³ 8 urah Koža	STV: 250 ppm 15 minuter STV: 350 mg/m³ 15 minuter LLV: 200 ppm 8 timmar. LLV: 250 mg/m³ 8 timmar. Hud	Deri TWA: 200 ppm 8 saat TWA: 260 mg/m³ 8 saat
Phenol	TWA: 0.3 mg/m³ Skin notation STEL: 1 mg/m³ vapor	Ceiling: 16 mg/m³ Potential for cutaneous absorption TWA: 2 ppm TWA: 7.8 mg/m³	TWA: 2 ppm 8 urah TWA: 8 mg/m³ 8 urah Kožа STEL: 4 ppm 15 minutah STEL: 16 mg/m³ 15 minutah	STV: 2 ppm 15 minuter STV: 8 mg/m³ 15 minuter LLV: 1 ppm 8 timmar. LLV: 4 mg/m³ 8 timmar. Hud	Deri TWA: 2 ppm 8 saat TWA: 8 mg/m³ 8 saat STEL: 4 ppm 15 dakika STEL: 16 mg/m³ 15 dakika

Biological limit values

List source

Component	European Union	United Kingdom	France	Spain	Germany
Methyl alcohol			Methanol: 15 mg/L urine end of shift	Methanol: 15 mg/L urine end of shift	Methanol: 30 mg/L urine (end of shift) Methanol: 30 mg/L urine (end of several shifts for long-term exposures)
Phenol			Total Phenol: 250 mg/g creatinine urine end of shift	Phenol (with hydrolysis): 120 mg/g Creatinine urine end of shift	Phenol: 120 mg/g urine (end of shift after hydrolysis;measured as mg/g Creatinine)

Component	Italy	Finland	Denmark	Bulgaria	Romania
Methyl alcohol					Methanol: 6 mg/L urine end of shift
Phenol		Total phenol: 1.3 mmol/L urine end of shift.		Phenol: 200 mg/L urine at the end of exposure or end of shift	total Phenol: 50 mg/L urine end of shift

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey
Methyl alcohol			Methanol: 30 mg/L urine end of exposure or work shift Methanol: 30 mg/L urine after all work shifts for long-term exposure		
Phenol			Phenol: 200 mg/L urine end of exposure or work shift		

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) No information available

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				
Inhalation				

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye protection Safety glasses with side-shields (European standard - EN 166)

Hand protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use In case of insufficient ventilation wear suitable respiratory equipment

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Dark purple	
Physical state	liquid	
Odour	No information available	
Odour Threshold	no data available	
pH	3.0 - 5.5	
Melting point/range	No data available	
Softening point	No data available	
Boiling point/range	Not applicable	
Flash point	36.11 °C / 97 °F	**Method -** closed cup
Evaporation rate	no data available	
Flammability (solid,gas)	Not applicable	liquid
Explosion limits	no data available.	
Vapour pressure	no data available	
Vapour density	no data available	(Air = 1.0)
Specific Gravity / Density	no data available	
Bulk density	Not applicable	liquid
Water solubility	No information available.	
Solubility in other solvents	No information available.	

Partition coefficient (n-octanol/water)

Component	**log Pow**
Ethyl alcohol	-0.32
Methyl alcohol	-0.74
Phenol	1.47

Autoignition temperature	no data available	
Decomposition temperature	no data available	
Viscosity	no data available	
Explosive properties	No information available.	explosive air/vapour mixtures possible
Oxidizing properties	No information available.	

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known based on information supplied

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation	Hazardous polymerisation does not occur.
Hazardous reactions	None under normal processing.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information Product does not present an acute toxicity hazard based on known or supplied information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met

Dermal Based on available data, the classification criteria are not met

Inhalation Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Ionanálú
Ethyl alcohol	LD50 = 7060 mg/kg (Rat)		20000 ppm/10H (Rat)
Methyl alcohol	**Calc. ATE 60 mg/kg** LD50 > 1187 – 2769 mg/kg (Rat)	**Calc. ATE 60 mg/kg** LD50 = 17100 mg/kg (Rabbit)	**Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists)** LC50 = 128.2 mg/L (Rat) 4 h
Phenol	LD50 = 340 mg/kg (Rat) LD50 = 317 mg/kg (Rat)	LD50 = 630 mg/kg (Rabbit)	LC50 = 316 mg/m³ (Rat) 4 h
C.I. Basic Violet 3	LD50 = 420 mg/kg (Rat)		

(b) skin corrosion/irritation; no data available

(c) serious eye damage/irritation; no data available

(d) respiratory or skin sensitization;

Respiratory no data available

Skin no data available

(e) germ cell mutagenicity; no data available

(f) carcinogenicity; no data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Ethyl alcohol				Group 1
Phenol			Cat. 3B	
C.I. Basic Violet 3	Carc Cat. 2			

(g) reproductive toxicity; no data available

(h) STOT-single exposure; no data available

(i) STOT-repeated exposure; no data available

Target Organs None known.

(j) aspiration hazard; no data available

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. Contains a substance which is:. Toxic to aquatic organisms. Very toxic to

aquatic organisms.

Component	Éisc Fionnuisce	Míol Gorm	Algaí Fionnuisce	Microtox
Ethyl alcohol	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h		EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min
Phenol	4-7 mg/L LC50 96 h 32 mg/L LC50 96 h	EC50: 10.2 - 15.5 mg/L, 48h (Daphnia magna) EC50: 4.24 - 10.7 mg/L, 48h Static (Daphnia magna)	EC50: 187 - 279 mg/L, 72h static (Desmodesmus subspicatus) EC50: 0.0188 - 0.1044 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: = 46.42 mg/L, 96h (Pseudokirchneriella subcapitata)	EC50 21 - 36 mg/L 30 min EC50 = 23.28 mg/L 5 min EC50 = 25.61 mg/L 15 min EC50 = 28.8 mg/L 5 min EC50 = 31.6 mg/L 15 min

12.2. Persistence and degradability No information available

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Ethyl alcohol	-0.32	no data available
Methyl alcohol	-0.74	10 (fish)
Phenol	1.47	no data available

12.4. Mobility in soil No information available. Soluble in water.

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products Dispose of in accordance with local regulations. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste.

Contaminated packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other information Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1170
14.2. UN proper shipping name ETHANOL SOLUTION
14.3. Transport hazard class(es) 3
14.4. Packing group III

ADR

14.1. UN number UN1170
14.2. UN proper shipping name ETHANOL SOLUTION
14.3. Transport hazard class(es) 3
14.4. Packing group III

IATA

14.1. UN number UN1170
14.2. UN proper shipping name ETHANOL SOLUTION
14.3. Transport hazard class(es) 3
14.4. Packing group III

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	China	AICS	KECL
Ethyl alcohol	200-578-6	-		X	X	-	X	X	X	X	X
Methyl alcohol	200-659-6	-		X	X	-	X	X	X	X	X
Phenol	203-632-7	-		X	X	-	X	X	X	X	X
C.I. Basic Violet 3	208-953-6	-		X	X	-	X	X	X	X	X

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
C.I. Basic Violet 3		Use restricted. See item 28. (see *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT* for restriction details)	SVHC Candidate list - Carcinogenic (Article 57a)

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Methyl alcohol	500 tonne	5000 tonne

National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Ethyl alcohol	WGK 1	
Methyl alcohol	WGK 1	
Phenol	WGK 2	Class I : 20 mg/m^3 (Massenkonzentration)
C.I. Basic Violet 3	WGK 3	

Component	France - INRS (Tables of occupational diseases)
Ethyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84
Methyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84
Phenol	Tableaux des maladies professionnelles (TMP) - RG 14

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.
Take note of Dir 94/33/EC on the protection of young people at work
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full Text of H-/EUH-Statements Referred to Under Section 3
H225 - Highly flammable liquid and vapour
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H370 - Causes damage to organs
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H373 - May cause damage to organs through prolonged or repeated exposure

Legend

CAS - Chemical Abstracts Service
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor (BCF)
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - Volatile organic compounds

Key literature references and sources for data
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Issuing date 05-Apr-2011

Revision Date	16-May-2016
Revision Summary	Update to CLP Format.

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

SAFETY DATA SHEET

Issuing date 18-May-2016 **Revision Date** 18-May-2016 **Revision Number** 2

KITS SDS COVER SHEET

Company

Oxoid Ltd
Wade Road
Basingstoke, Hants, UK
RG24 8PW
Tel: +44 (0) 1256 841144

Emergency telephone number Carechem 24: +44 (0) 1865 407333

E-mail address mbd-sds@thermofisher.com

Product Information

Product name **Gram Stain Kit**

Product identifier **OXDR40080COVER**
Cat No. : **R40080**

Recommended use Laboratory chemicals.

Components

Description Gram Crystal Violet - R40052, R40053, R40073Decolourizer - R40054, R40055, R40075Iodine - R40056, R40057, R40077, R40234, R40235Safranin - R40058, R40059, R40079

UN-No UN1993
Proper shipping name Flammable liquid, n.o.s. (Acetone, Ethyl Alcohol)
Hazard class 3
Packing group II

Issuing date 05-May-2011 **Revision Date** 18-May-2016 **Revision Number** 2

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product name **Gram Decolourizer**
Cat No. : **R40054, R40055, R40075**

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

Recommended use Laboratory chemicals.
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Company

Remel
12076 Santa Fe Drive
Lenexa, KS 66215 United States
Telephone: 1-800-255-6730
Fax:1-800-621-8251

Supplier

Oxoid Ltd.
Wade Road
Basingstoke, Hants, UK
RG24 8PW
Telephone: +44 (0) 1256 841144.

E-mail address mbd-sds@thermofisher.com

1.4. Emergency telephone number

Carechem 24: +44 (0) 1865 407333

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification

Physical hazards

Flammable liquids	Category 2

Health hazards

Serious eye damage/eye irritation	Category 2
Specific target organ toxicity - (single exposure)	Category 3

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements

Signal word **Danger**

Hazard statements

H225 - Highly flammable liquid and vapour
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P280 - Wear eye protection/ face protection
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P308 + P313 - IF exposed or concerned: Get medical advice/ attention

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS-No	EC-No.	Weight percent	GHS Classification
Acetone	67-64-1	EEC No. 200-662-2	50	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336) EUH066
Ethyl alcohol	64-17-5	200-578-6	48	Flam. Liq. 2 (H225)
Methyl alcohol	67-56-1	200-659-6	<3	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice If symptoms persist, call a physician.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Obtain medical attention.

Inhalation Move to fresh air. Get medical attention if symptoms occur.

Protection of first-aiders Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Breathing difficulties. Inhalation of high vapour concentrations may cause symptoms like

headache, dizziness, tiredness, nausea and vomiting

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

Notes to physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapours may form explosive mixtures with air. vapours may travel to source of ignition and flash back.

Hazardous combustion products
Carbon oxides.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Ensure adequate ventilation. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Component	European Union	The United Kingdom	France	Belgium	Spain
Acetone	TWA: 500 ppm 8 hr TWA: 1210 mg/m³ 8 hr	TWA: 500 ppm TWA: 1210 mg/m³ STEL: 1500 ppm STEL: 3620 mg/m³	TWA / VME: 500 ppm (8 heures). restrictive limit TWA / VME: 1210 mg/m³ (8 heures). restrictive limit STEL / VLCT: 1000 ppm. restrictive limit STEL / VLCT: 2420 mg/m³. restrictive limit	TWA: 500 ppm 8 uren TWA: 1210 mg/m³ 8 uren STEL: 1000 ppm 15 minuten STEL: 2420 mg/m³ 15 minuten	TWA / VLA-ED: 500 ppm (8 horas) TWA / VLA-ED: 1210 mg/m³ (8 horas)
Ethyl alcohol		TWA: 1000 ppm TWA; 1920 mg/m³ TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m³ STEL	TWA / VME: 1000 ppm (8 heures). TWA / VME: 1900 mg/m³ (8 heures). STEL / VLCT: 5000 ppm. STEL / VLCT: 9500 mg/m³.	TWA: 1000 ppm 8 uren TWA: 1907 mg/m³ 8 uren	STEL / VLA-EC: 1000 ppm (15 minutos). STEL / VLA-EC: 1910 mg/m³ (15 minutos).
Methyl alcohol	TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr Skin	WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL	TWA / VME: 200 ppm (8 heures). restrictive limit TWA / VME: 260 mg/m³ (8 heures). restrictive limit STEL / VLCT: 1000 ppm. STEL / VLCT: 1300 mg/m³. Peau	TWA: 200 ppm 8 uren TWA: 266 mg/m³ 8 uren STEL: 250 ppm 15 minuten STEL: 333 mg/m³ 15 minuten Huid	TWA / VLA-ED: 200 ppm (8 horas) TWA / VLA-ED: 266 mg/m³ (8 horas) Piel

Component	Italy	Germany	Portugal	The Netherlands	Finland
Acetone	TWA: 500 ppm 8 ore. Media Ponderata nel Tempo TWA: 1210 mg/m³ 8 ore. Media Ponderata nel Tempo	TWA: 500 ppm TWA: 1200 mg/m³	STEL: 750 ppm 15 minutos TWA: 500 ppm 8 horas TWA: 1210 mg/m³ 8 horas	STEL: 2420 mg/m³ 15 minuten TWA: 1210 mg/m³ 8 uren	TWA: 500 ppm 8 tunteina TWA: 1200 mg/m³ 8 tunteina STEL: 630 ppm 15 minuutteina STEL: 1500 mg/m³ 15 minuutteina
Ethyl alcohol		500 ppm TWA; 960 mg/m³ TWA	TWA: 1000 ppm 8 horas	huid STEL: 1900 mg/m³ 15 minuten TWA: 260 mg/m³ 8 uren	TWA: 1000 ppm 8 tunteina TWA: 1900 mg/m³ 8 tunteina STEL: 1300 ppm 15 minuutteina STEL: 2500 mg/m³ 15 minuutteina
Methyl alcohol	TWA: 200 ppm 8 ore. Media Ponderata nel Tempo TWA: 260 mg/m³ 8 ore. Media Ponderata nel Tempo	200 ppm TWA; 270 mg/m³ TWA Skin absorber	STEL: 250 ppm 15 minutos TWA: 200 ppm 8 horas TWA: 260 mg/m³ 8 horas Pele	huid TWA: 133 mg/m³ 8 uren TWA: 100 ppm 8 uren	TWA: 200 ppm 8 tunteina TWA: 270 mg/m³ 8 tunteina STEL: 250 ppm 15 minuutteina

	Pelle				STEL: 330 mg/m³ 15 minuutteina Iho

Component	Austria	Denmark	Switzerland	Poland	Norway
Acetone	MAK-KZW: 2000 ppm 15 Minuten MAK-KZW: 4800 mg/m³ 15 Minuten MAK-TMW: 500 ppm 8 Stunden MAK-TMW: 1200 mg/m³ 8 Stunden	TWA: 250 ppm 8 timer TWA: 600 mg/m³ 8 timer	STEL: 1000 ppm 15 Minuten STEL: 2400 mg/m³ 15 Minuten TWA: 500 ppm 8 Stunden TWA: 1200 mg/m³ 8 Stunden	STEL: 1800 mg/m³ 15 minutach TWA: 600 mg/m³ 8 godzinach	TWA: 125 ppm 8 timer TWA: 295 mg/m³ 8 timer STEL: 125 ppm 15 minutter. STEL: 295 mg/m³ 15 minutter.
Ethyl alcohol	MAK-KZW: 2000 ppm 15 Minuten MAK-KZW: 3800 mg/m³ 15 Minuten MAK-TMW: 1000 ppm 8 Stunden MAK-TMW: 1900 mg/m³ 8 Stunden	TWA: 1000 ppm 8 timer TWA: 1900 mg/m³ 8 timer	STEL: 1000 ppm 15 Minuten STEL: 1920 mg/m³ 15 Minuten TWA: 500 ppm 8 Stunden TWA: 960 mg/m³ 8 Stunden	TWA: 1900 mg/m³ 8 godzinach	TWA: 500 ppm 8 timer TWA: 950 mg/m³ 8 timer STEL: 500 ppm 15 minutter. STEL: 950 mg/m³ 15 minutter.
Methyl alcohol	Haut MAK-KZW: 800 ppm 15 Minuten MAK-KZW: 1040 mg/m³ 15 Minuten MAK-TMW: 200 ppm 8 Stunden MAK-TMW: 260 mg/m³ 8 Stunden	TWA: 200 ppm 8 timer TWA: 260 mg/m³ 8 timer Hud	Haut/Peau STEL: 800 ppm 15 Minuten STEL: 1040 mg/m³ 15 Minuten TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	STEL: 300 mg/m³ 15 minutach TWA: 100 mg/m³ 8 godzinach	TWA: 100 ppm 8 timer TWA: 130 mg/m³ 8 timer STEL: 100 ppm 15 minutter. STEL: 130 mg/m³ 15 minutter. Hud

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Acetone	TWA: 600 mg/m³ STEL : 1400 mg/m³	TWA-GVI: 500 ppm 8 satima. TWA-GVI: 1210 mg/m³ 8 satima. STEL-KGVI: 1500 ppm 15 minutama. STEL-KGVI: 3620 mg/m³ 15 minutama.	TWA: 500 ppm 8 hr. TWA: 1210 mg/m³ 8 hr. STEL: 1500 ppm 15 min STEL: 3630 mg/m³ 15 min	Skin-potential for cutaneous absorption TWA: 500 ppm TWA: 1210 mg/m³	TWA: 800 mg/m³ 8 hodinách. Ceiling: 1500 mg/m³
Ethyl alcohol	TWA: 1000 mg/m³	TWA-GVI: 1000 ppm 8 satima. TWA-GVI: 1900 mg/m³ 8 satima.	STEL: 1000 ppm 15 min		TWA: 1000 mg/m³ 8 hodinách. Ceiling: 3000 mg/m³
Methyl alcohol	TWA: 200 ppm TWA: 260.0 mg/m³ Skin notation	kože TWA-GVI: 200 ppm 8 satima. TWA-GVI: 260 mg/m³ 8 satima.	TWA: 200 ppm 8 hr. TWA: 260 mg/m³ 8 hr. STEL: 600 ppm 15 min STEL: 780 mg/m³ 15 min Skin	Skin-potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m³	TWA: 250 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 1000 mg/m³

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Acetone	TWA: 500 ppm 8 tundides. TWA: 1210 mg/m³ 8 tundides.	TWA: 500 ppm 8 hr TWA: 1210 mg/m³ 8 hr	STEL: 3560 mg/m³ TWA: 1780 mg/m³	STEL: 2420 mg/m³ 15 percekben. CK Substances with European indicative limits (96/94/EC, 2000/39/EC, 2006/15/EC, 2009/161/EU), which currently has no peak limit concentration. In these cases, Annex 3.1. should be used exercised TWA: 1210 mg/m³ 8 órában. AK	TWA: 250 ppm 8 klukkustundum. TWA: 600 mg/m³ 8 klukkustundum. Ceiling: 500 ppm Ceiling: 1200 mg/m³
Ethyl alcohol	TWA: 500 ppm 8 tundides. TWA: 1000 mg/m³ 8 tundides.		TWA: 1000 ppm TWA: 1900 mg/m³	STEL: 7600 mg/m³ 15 percekben. CK TWA: 1900 mg/m³ 8 órában. AK	TWA: 1000 ppm 8 klukkustundum. TWA: 1900 mg/m³ 8 klukkustundum.

	STEL: 1000 ppm 15 minutites. STEL: 1900 mg/m³ 15 minutites.				Ceiling: 2000 ppm Ceiling: 3800 mg/m³
Methyl alcohol	Nahk TWA: 200 ppm 8 tundides. TWA: 260 mg/m³ 8 tundides. STEL: 250 ppm 15 minutites. STEL: 350 mg/m³ 15 minutites.	Skin notation TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr	skin - potential for cutaneous absorption STEL: 250 ppm STEL: 325 mg/m³ TWA: 200 ppm TWA: 260 mg/m³	TWA: 260 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 200 ppm 8 klukkustundum. TWA: 260 mg/m³ 8 klukkustundum. Skin notation Ceiling: 400 ppm Ceiling: 520 mg/m³

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Acetone	TWA: 500 ppm TWA: 1210 mg/m³	TWA: 500 ppm IPRD TWA: 1210 mg/m³ IPRD STEL: 1000 ppm STEL: 2420 mg/m³	TWA: 500 ppm 8 Stunden TWA: 1210 mg/m³ 8 Stunden	TWA: 500 ppm TWA: 1210 mg/m³	TWA: 500 ppm 8 ore TWA: 1210 mg/m³ 8 ore
Ethyl alcohol	TWA: 1000 mg/m³	TWA: 500 ppm IPRD TWA: 1000 mg/m³ IPRD STEL: 1000 ppm STEL: 1900 mg/m³			TWA: 1000 ppm 8 ore TWA: 1900 mg/m³ 8 ore STEL: 5000 ppm 15 minute STEL: 9500 mg/m³ 15 minute
Methyl alcohol	skin - potential for cutaneous exposure TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm IPRD TWA: 260 mg/m³ IPRD Oda	Possibility of significant uptake through the skin TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	possibility of significant uptake through the skin TWA: 200 ppm TWA: 260 mg/m³	Skin notation TWA: 200 ppm 8 ore TWA: 260 mg/m³ 8 ore STEL: 5 ppm 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Acetone	TWA: 200 mg/m³ STEL: 800 mg/m³ vapor	Ceiling: 2420 mg/m³ TWA: 500 ppm TWA: 1210 mg/m³	TWA: 500 ppm 8 urah TWA: 1210 mg/m³ 8 urah	STV: 500 ppm 15 minuter STV: 1200 mg/m³ 15 minuter LLV: 250 ppm 8 timmar. LLV: 600 mg/m³ 8 timmar.	TWA: 500 ppm 8 saat TWA: 1210 mg/m³ 8 saat
Ethyl alcohol	TWA: 1000 mg/m³ STEL: 2000 mg/m³ vapor	Ceiling: 1920 mg/m³ TWA: 500 ppm TWA: 960 mg/m³	TWA: 1000 ppm 8 urah TWA: 1900 mg/m³ 8 urah STEL: 4000 ppm 15 minutah STEL: 7600 mg/m³ 15 minutah	STV: 1000 ppm 15 minuter STV: 1900 mg/m³ 15 minuter LLV: 500 ppm 8 timmar. LLV: 1000 mg/m³ 8 timmar.	
Methyl alcohol	TWA: 5 mg/m³ Skin notation STEL: 15 mg/m³ vapor	Potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm 8 urah TWA: 260 mg/m³ 8 urah Kožа	STV: 250 ppm 15 minuter STV: 350 mg/m³ 15 minuter LLV: 200 ppm 8 timmar. LLV: 250 mg/m³ 8 timmar. Hud	Deri TWA: 200 ppm 8 saat TWA: 260 mg/m³ 8 saat

Biological limit values

List source

Component	European Union	United Kingdom	France	Spain	Germany
Acetone			Acetone: 100 mg/L urine end of shift	Acetone: 50 mg/L urine end of shift	Acetone: 80 mg/L urine (end of shift)
Methyl alcohol			Methanol: 15 mg/L urine end of shift	Methanol: 15 mg/L urine end of shift	Methanol: 30 mg/L urine (end of shift) Methanol: 30 mg/L urine (end of several shifts for long-term exposures)

Component	Italy	Finland	Denmark	Bulgaria	Romania

Acetone				Acetone: 80 mg/L urine at the end of exposure or end of shift	Acetone: 50 mg/L urine end of shift
Methyl alcohol					Methanol: 6 mg/L urine end of shift

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey
Acetone			Acetone: 80 mg/L urine end of exposure or work shift		
Methyl alcohol			Methanol: 30 mg/L urine end of exposure or work shift Methanol: 30 mg/L urine after all work shifts for long-term exposure		

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) No information available

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				
Inhalation				

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye protection Goggles (European standard - EN 166)

Hand protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use In case of insufficient ventilation wear suitable respiratory equipment

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	clear	
Physical state	liquid	
Odour	pungent	
Odour Threshold	no data available	
pH	6.0	
Melting point/range	No data available	
Softening point	No data available	
Boiling point/range	56.1 °C / 133 °F	
Flash point	0 °C / 32 °F	**Method -** closed cup
Evaporation rate	no data available	
Flammability (solid,gas)	Not applicable	liquid
Explosion limits	no data available.	
Vapour pressure	no data available	
Vapour density	no data available	(Air = 1.0)
Specific Gravity / Density	no data available	
Bulk density	Not applicable	liquid
Water solubility	No information available.	
Solubility in other solvents	No information available.	

Partition coefficient (n-octanol/water)

Component	**log Pow**
Acetone	-0.24
Ethyl alcohol	-0.32
Methyl alcohol	-0.74

Autoignition temperature	no data available	
Decomposition temperature	no data available	
Viscosity	no data available	
Explosive properties	No information available.	Vapours may form explosive mixtures with air
Oxidizing properties	No information available.	

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known based on information supplied

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation Hazardous polymerisation does not occur.

Hazardous reactions None under normal processing.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information Product does not present an acute toxicity hazard based on known information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met

Dermal Based on available data, the classification criteria are not met

Inhalation Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Ionanálú
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)	76 mg/l, 4 h, (rat)
Ethyl alcohol	LD50 = 7060 mg/kg (Rat)		20000 ppm/10H (Rat)
Methyl alcohol	**Calc. ATE 60 mg/kg** LD50 > 1187 – 2769 mg/kg (Rat)	**Calc. ATE 60 mg/kg** LD50 = 17100 mg/kg (Rabbit)	**Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists)** LC50 = 128.2 mg/L (Rat) 4 h

(b) skin corrosion/irritation; no data available

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory no data available

Skin no data available

(e) germ cell mutagenicity; no data available

Component	Test method	Test species	Study result
Acetone 67-64-1 (50)	OECD Test Guideline 471 AMES test	in vivo	negative
	OECD Test Guideline 476 Mammalian Gene cell mutation	in vitro	negative

(f) carcinogenicity; no data available

Contains no ingredient listed as a carcinogen The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Ethyl alcohol				Group 1

(g) reproductive toxicity; no data available

(h) STOT-single exposure; Category 3

Results / Target organs Central nervous system.

(i) STOT-repeated exposure; no data available

Target Organs None known.

(j) aspiration hazard; no data available

Symptoms / effects,both acute and delayed Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Contains a substance which is:. Toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Éisc Fionnuisce	Míol Gorm	Algaí Fionnuisce	Microtox
Acetone	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h	NOEC = 430 mg/l (algae; 96 h)	EC50 = 14500 mg/L/15 min
Ethyl alcohol	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h		EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min

12.2. Persistence and degradability No information available

Persistence Persistence is unlikely, based on information supplied.

Component	Degradability
Acetone 67-64-1 (50)	91 % (28 d) (OECD 301 B)

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Acetone	-0.24	0.69
Ethyl alcohol	-0.32	no data available
Methyl alcohol	-0.74	10 (fish)

12.4. Mobility in soil The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Is dócha a bheith gluaisteach sa chomhshaol de thairbhe a sho-ghalaitheachta. Disperses rapidly in air

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other information Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be incinerated, when in compliance

with local regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1993
14.2. UN proper shipping name Flammable liquid, n.o.s. (Acetone, Ethyl Alcohol)
14.3. Transport hazard class(es) 3
14.4. Packing group II

ADR

14.1. UN number UN1993
14.2. UN proper shipping name Flammable liquid, n.o.s. (Acetone, Ethyl Alcohol)
14.3. Transport hazard class(es) 3
14.4. Packing group II

IATA

14.1. UN number UN1993
14.2. UN proper shipping name Flammable liquid, n.o.s. (Acetone, Ethyl Alcohol)
14.3. Transport hazard class(es) 3
14.4. Packing group II

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	China	AICS	KECL
Acetone	200-662-2	-		X	X	-	X	X	X	X	X
Ethyl alcohol	200-578-6	-		X	X	-	X	X	X	X	X
Methyl alcohol	200-659-6	-		X	X	-	X	X	X	X	X

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Methyl alcohol	500 tonne	5000 tonne

National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Acetone	WGK 1	
Ethyl alcohol	WGK 1	
Methyl alcohol	WGK 1	

Component	France - INRS (Tables of occupational diseases)
Acetone	Tableaux des maladies professionnelles (TMP) - RG 84
Ethyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84
Methyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.
Take note of Dir 94/33/EC on the protection of young people at work
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full Text of H-/EUH-Statements Referred to Under Section 3

H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H370 - Causes damage to organs
EUH066 - Repeated exposure may cause skin dryness or cracking
H225 - Highly flammable liquid and vapour
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor (BCF)

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile organic compounds

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Issuing date	05-May-2011
Revision Date	18-May-2016
Revision Summary	Update to CLP Format.

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet