AMA UNIVERSAL CVK 100 V Parts Degreasing Machine
Using Dowclene 1601 Solvent
Year 2016 Serial number M7301601

The Wash Machine is fully enclosed unit that is self contained and under constant Vacuum.
It consists of 2 heated tanks a heated distillation still a heated parts rotation drum vacuum pump and refrigeration unit.

The parts to be washed are placed into sealed wire baskets which are then loaded into the drum and the drum door is automatically slid closed and locked.
A vacuum pump pulls a vacuum in all the vessels that contain solvent.
The drum with parts in rotates and hot solvent from tank 2 is pumped over parts to remove oil and particles, the used solvent is pumped back into the still part of which is condensed over the refrigeration coils, the remaining is used in the drying, leaving oil and particles in the still.
Again heated solvent is pumped over the parts and an ultrasonic unit is used to remove any remaining particles, the solvent is then pumped back to the tank through multiple filters to remove any particles.
The vapours used to dry the parts are condensed and returned back to tank.
After Cycle completion the door automatically opens and the vacuum pump creates a positive air flow through the door to contain any solvent loss this also passes over the cooling coils to condense any vapours

Tappex® pressavon®

Ref No 26

COSHH ASSESSMENT FORM

COMPANY	Tappex Thread Inserts Ltd / Pressavon
WORKPLACE LOCATION	**Shop Floor**
PLANT/PROCESS/ACTIVITY	
NO OF EMPLOYEES DIRECTLY INVOLVED	**EMPLOYEES AND OTHERS WHO MAY BE AFFECTED (give details)** **Wash Opratives**

SUBSTANCE(S) IN USE AND PRODUCED/EVOLVED
(ie by products and wastes as well as substances actually used).

Name	Quantity in stock (kg)	Brief description of hazard	Data Sheet ref no
Dowclene 1601 cleaning fluid	**Min of 250 Ltrs**		**45**

OCCUPATIONAL EXPOSURE LIMITS: (from HSE Guidance Note EH40)

Substance	WEL Long term exposure limit	WEL Short term exposure limit
Industrial Solvent		

EXPOSURE(S) TO SUBSTANCE(S)

Nature of exposure (eg inhalation, skin or eye contact, ingestion)	Cause of exposure	Amount handled/used, if relevant (kg)	Frequency and duration
Skin Eye	Irritation – Cat 2 Irritation – Cat 2		

AIR MONITORING RESULTS:- (if any)

Substance	WEL exceeded	Air monitoring Ref No

Tappex pressavon

CONTROL MEASURES IN USE: (eg local exhaust ventilation (LEV), general ventilation, systems of work, cleaning, storage and spillage procedures)

Description of Control	Is control effective

PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING PROVIDED

Plant/Process/Activity	Details of PPE supplied (state precise type)	Is the PPE adequate	Is the PPE properly used
Wash Area	Overalls Safety glasses Safety boots Ear protection Gloves available if required	Yes	yes

INFORMATION, INSTRUCTION AND TRAINING:

Details of relevant training plus information and instructions given to employee	Was the training adequate	Are records held
All COSSH sheets available to all employees	Yes	yes

ASSESSMENT OF RISK:

Is exposure to hazardous substances adequately controlled YES NO MORE DATA REQUIRED

HEALTH SURVEILLANCE

Is health surveillance of employees in the section carried out YES Hearing Test Only
Is health surveillance required NO

ACTION REQUIRED:

Details	By Whom	Target completion date

ASSESSED BY (name and position)	Date	Date of Previous Assessment
Lawson Hunt H,S & Environmental Officer	March 2017	Aug 2016

SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: DOWCLENE* 1601 Cleaning Fluid

Revision Date: 09.11.2015
Version: 9.1
Print Date: 17.11.2015

DOW CHEMICAL COMPANY LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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

1.1 Product identifier
Product name: DOWCLENE* 1601 Cleaning Fluid

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Industrial solvent.

1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION
DOW CHEMICAL COMPANY LIMITED
DIAMOND HOUSE, LOTUS PARK,
KINGSBURY CRESCENT,
STAINES
England
TW18 3AG
UNITED KINGDOM

Customer Information Number: +44 (0) 203 139 4000
SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 0031 115 694 982
Local Emergency Contact: 00 31 115 69 4982

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Skin irritation - Category 2 - H315
Eye irritation - Category 2 - H319
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms

Signal word: WARNING

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

P264	Wash skin thoroughly after handling.
P280	Wear eye protection/ face protection.
P280	Wear protective gloves.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

2.3 Other hazards

No data available

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 5131-66-8 **EC-No.** 225-878-4 **Index-No.** 603-052-00-8	01-2119475527-28	> 90.0 %	3-Butoxypropan-2-ol; propylene glycol monobutyl ether	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319

CASRN 15821-83-7 **EC-No.** 605-138-0 **Index-No.** –	–	< 5.0 %	2-Butoxy-1-propanol	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319
CASRN 111109-77-4 **EC-No.** 404-640-5 **Index-No.** –	01-0000015420-83	< 6.0 %	Dipropylene glycol dimethyl ether	Not classified

If present in this product, any not classified components disclosed above for which no country specific OEL value(s) is(are) indicated under Section 8, are being disclosed as voluntarily disclosed components.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures
General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed
Notes to physician: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: No data available

5.2 Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

5.3 Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. No smoking in area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up: Small spills: Contain spilled material if possible. Absorb with materials such as: Sand. Vermiculite. Large spills: Dike area to contain spill. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections: References to other sections, if applicable, have been provided in the previous sub-sections.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Keep away from heat, sparks and flame. Do not swallow. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Handling operations that can promote accumulation of static charges include but are not limited to mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

7.2 Conditions for safe storage, including any incompatibilities: Store away from direct sunlight. Store in the following material(s): Carbon steel. Stainless steel. Do not store in: Aluminum. Keep container closed.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
3-Butoxypropan-2-ol; propylene glycol monobutyl ether	Dow IHG	TWA	50 ppm
2-Butoxy-1-propanol	Dow IHG	TWA	50 ppm
Dipropylene glycol dimethyl ether	Dow IHG	TWA	20 ppm

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the

glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C)

Environmental exposure controls
See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Colorless
Odor	Characteristic
Odor Threshold	No test data available
pH	No test data available
Melting point/range	Not applicable
Freezing point	-75 °C *Literature*
Boiling point (760 mmHg)	170 - 175 °C *Literature*
Flash point	**closed cup** 63 °C *Pensky-Martens Closed Cup ASTM D 93* (PMCC)
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	1.1 % vol *Literature*
Upper explosion limit	8.4 % vol *Literature*
Vapor Pressure	0.11 kPa *Literature*
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	0.88 at 25 °C *Literature*

Water solubility	6.3 % *Literature*
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	242 °C *Literature*
Decomposition temperature	No test data available
Kinematic Viscosity	3.85 mm2/s at 20 °C *Estimated.*
Explosive properties	No
Oxidizing properties	No

9.2 Other information

Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available

10.2 Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

10.3 Possibility of hazardous reactions: Polymerization will not occur.

10.4 Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.

10.5 Incompatible materials: Avoid contact with: Strong acids. Strong oxidizers.

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Acute inhalation toxicity
Brief exposure (minutes) is not likely to cause adverse effects. For respiratory irritation and narcotic effects: No relevant data found.
As product: The LC50 has not been determined.

Skin corrosion/irritation
Brief contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight corneal injury.
Effects are likely to heal readily.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization
Based on information for component(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the minor component(s):
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Adrenal gland.
For the major component(s):
Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity
No relevant data found.

Teratogenicity
For the minor component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. For the major component(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
For all components. In animal studies, did not interfere with reproduction.

Mutagenicity
For all components. In vitro genetic toxicity studies were negative. For the major component(s): Animal genetic toxicity studies were negative.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

COMPONENTS INFLUENCING TOXICOLOGY:

3-Butoxypropan-2-ol; propylene glycol monobutyl ether

Acute oral toxicity
LD50, Rat, male and female, 3,300 mg/kg

Acute dermal toxicity
LD50, Rat, male and female, > 2,000 mg/kg

Acute inhalation toxicity
Brief exposure (minutes) is not likely to cause adverse effects. For respiratory irritation and narcotic effects: No relevant data found.

LC50, Rat, 4 Hour, vapour, > 3.5 mg/l No deaths occurred at this concentration.

2-Butoxy-1-propanol

Acute oral toxicity
For similar material(s): LD50, Rat, male and female, 3,300 mg/kg

Acute dermal toxicity
For similar material(s): LD50, Rat, male and female, > 2,000 mg/kg

Acute inhalation toxicity
For similar material(s): LC0, Rat, 4 Hour, vapour, > 3.5 mg/l No deaths occurred at this concentration.

Dipropylene glycol dimethyl ether

Acute oral toxicity
LD50, Rat, 3,300 mg/kg

Acute dermal toxicity
LD50, Rat, > 2,000 mg/kg

Acute inhalation toxicity
LC50, Rat, 4 Hour, vapour, > 5.25 mg/l No deaths occurred at this concentration.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity

3-Butoxypropan-2-ol; propylene glycol monobutyl ether

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Poecilia reticulata (guppy), static test, 96 Hour, > 560 - 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth inhibition (cell density reduction), > 1,000 mg/l, OECD Test Guideline 201 or Equivalent
NOEC, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth inhibition (cell density reduction), 560 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Bacteria, static test, 3 Hour, > 1,000 mg/l

2-Butoxy-1-propanol

Acute toxicity to fish
Based on information for a similar material:
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
For similar material(s):
LC50, Poecilia reticulata (guppy), static test, 96 Hour, > 560 - 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
For similar material(s):
EC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth inhibition (cell density reduction), > 1,000 mg/l
For similar material(s):
EC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth inhibition (cell density reduction), 560 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
For similar material(s):
EC50, Bacteria, static test, 3 Hour, > 1,000 mg/l

Dipropylene glycol dimethyl ether

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Poecilia reticulata (guppy), static test, 96 Hour, > 1,000 mg/l
NOEC sublethal, Oncorhynchus mykiss (rainbow trout), flow-through test, 14 Hour, > 300 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 10 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 32 mg/l
MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 18 mg/l

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, survival, > 1,000 mg/kg

12.2 Persistence and degradability

3-Butoxypropan-2-ol; propylene glycol monobutyl ether
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 85 - 92 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent

2-Butoxy-1-propanol
Biodegradability: Based on information for a similar material: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
For similar material(s): 10-day Window: Not applicable
Biodegradation: 85 - 92 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent

Dipropylene glycol dimethyl ether
Biodegradability: Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
10-day Window: Fail
Biodegradation: 18 - 32 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
10-day Window: Not applicable
Biodegradation: 25 %
Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent

12.3 Bioaccumulative potential

3-Butoxypropan-2-ol; propylene glycol monobutyl ether
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.2 at 20 °C Measured

2-Butoxy-1-propanol
Bioaccumulation: Based on information for a similar material: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.2 at 20 °C

Dipropylene glycol dimethyl ether
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.42 Measured
Bioconcentration factor (BCF): 4 Oncorhynchus mykiss (rainbow trout) 43 d Measured

12.4 Mobility in soil

3-Butoxypropan-2-ol; propylene glycol monobutyl ether

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.3 - 6.0 Estimated.

2-Butoxy-1-propanol

Based on information for a similar material:
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.3 - 6.0 Estimated.

Dipropylene glycol dimethyl ether

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 2 Estimated.

12.5 Results of PBT and vPvB assessment

3-Butoxypropan-2-ol; propylene glycol monobutyl ether

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

2-Butoxy-1-propanol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Dipropylene glycol dimethyl ether

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

3-Butoxypropan-2-ol; propylene glycol monobutyl ether

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

2-Butoxy-1-propanol

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Dipropylene glycol dimethyl ether

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing

hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1	**UN number**	Not applicable
14.2	**Proper shipping name**	Not regulated for transport
14.3	**Class**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not considered environmentally hazardous based on available data.
14.6	**Special precautions for user**	No data available.

Classification for SEA transport (IMO-IMDG):

14.1	**UN number**	Not applicable
14.2	**Proper shipping name**	Not regulated for transport
14.3	**Class**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not considered as marine pollutant based on available data.
14.6	**Special precautions for user**	No data available.
14.7	**Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	**UN number**	Not applicable
14.2	**Proper shipping name**	Not regulated for transport
14.3	**Class**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not applicable
14.6	**Special precautions for user**	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service

representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15. REGULATORY INFORMATION

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

REACh Regulation (EC) No 1907/2006
This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Listed in Regulation: Not applicable

15.2 Chemical Safety Assessment
Not applicable

SECTION 16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
Skin Irrit. - 2 - H315 - Calculation method
Eye Irrit. - 2 - H319 - Calculation method

Product Literature
Additional information on this product may be obtained by calling your sales or customer service contact.

Revision
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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Dow IHG	Dow Industrial Hygiene Guideline
TWA	Time weighted average

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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