SAFETY DATA SHEET

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

1.1 Product identifier

Product name Iloform TRS 6

UFI: DYP1-F0MY-800E-YYK2

Product code 457330-FR01

SDS # 457330

Product type Liquid.

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

Identified uses
Handling and dilution of metal working fluid concentrates-Industrial Use of lubricants in high energy open processes-Industrial Use of lubricants in high energy open processes-Professional

Use of the substance/ mixture Metalworking fluid - soluble.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

1.3 Details of the supplier of the safety data sheet

Supplier ABC Maziva Podjetje za trgovino z industrijskimi olji, d.o.o
Bravnicarjeva ulica 13, 1000 Ljubljana, Slovenia

+386 (0) 15136242

E-mail address MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER Carechem: +44 (0) 1235 239 670 (24/7)

Slovenia Poison Center Call 112 when poisoning incidents occur and request Poison Information - around the clock.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

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

Skin Irrit. 2, H315
Eye Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 3, H412

Additional information CLP: Not classified as hazardous when diluted below 10%

See Section 16 for the full text of the H statements declared above.

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

2.2 Label elements

UFI: DYP1-F0MY-800E-YYK2

Hazard pictograms

Signal word Danger

Hazard statements

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

SECTION 2: Hazards identification

Prevention
P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.
P264 - Wash hands thoroughly after handling.

Response
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage
Not applicable.

Disposal
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients
Fatty acids, tall-oil, reaction products with ethanolamine, ethoxylated

2-aminoethanol

dicyclohexylamine

1,2-Benzisothiazol-3(2H)-one

Supplemental label elements
Not applicable.

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings
Not applicable.

Tactile warning of danger
Not applicable.

2.3 Other hazards

Results of PBT and vPvB assessment
Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification
Defatting to the skin.
This product contains complex ionic mixtures within the fluid matrix which are an intrinsic part of the product and cannot be separated from the fluid matrix. Toxicology testing has shown the ionic-mixture containing products exhibit skin and eye irritation properties that are notably attenuated when compared to the individual acid and base components.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product definition
Mixture

Highly refined base oil (IP 346 DMSO extract <3%), emulsifiers and additives.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	REACH #: 01-2119827000-58 EC: 934-956-3 CAS: -	≥10 - ≤25	Asp. Tox. 1, H304	-	[1] [2]
Fatty acids, tall-oil, reaction products with ethanolamine, ethoxylated	REACH #: 01-2119980966-16 CAS: 61791-19-3	≤10	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 3, H412	-	[1]
2-aminoethanol	REACH #: 01-2119486455-28 EC: 205-483-3	<5	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332	ATE [Oral] = 500 mg/kg ATE [Dermal] = 1100	[1] [2]

SECTION 3: Composition/information on ingredients

	CAS: 141-43-5 Index: 603-030-00-8		Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412	mg/kg ATE [Inhalation (vapours)] = 11 mg/l STOT SE 3, H335: C ≥ 5%	
dicyclohexylamine	REACH #: 01-2119493354-33 EC: 202-980-7 CAS: 101-83-7 Index: 612-066-00-3	≤5	Acute Tox. 3, H301 Acute Tox. 3, H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 100 mg/kg ATE [Dermal] = 300 mg/kg M [Acute] = 1 M [Chronic] = 1	[1] [2]
Ethylene glycol	REACH #: 01-2119456816-28 EC: 203-473-3 CAS: 107-21-1 Index: 603-027-00-1	≤3	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	ATE [Oral] = 500 mg/kg	[1] [2]
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-[(9Z)-9-octadecen-1-yloxy]-	CAS: 57635-48-0	≤3	Eye Dam. 1, H318	-	[1]
Alkyl ether carboxylic acid	CAS: 53563-70-5	≤3	Eye Dam. 1, H318	-	[1]
Alcohols, C16-18 and C18-unsatd., ethoxylated	EC: 500-236-9 CAS: 68920-66-1	≤3	Skin Irrit. 2, H315 Aquatic Chronic 2, H411	-	[1]
2-(2-butoxyethoxy)ethanol	REACH #: 01-2119475104-44 EC: 203-961-6 CAS: 112-34-5 Index: 603-096-00-8	≤3	Eye Irrit. 2, H319	-	[1] [2]
3,5,5-trimethylhexanoic acid	REACH #: 01-2119517580-45 EC: 221-975-0 CAS: 3302-10-1	≤3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318	ATE [Oral] = 500 mg/kg	[1]
1,2-Benzisothiazol-3(2H)-one	EC: 220-120-9 CAS: 2634-33-5 Index: 613-088-00-6	<0.1	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 450 mg/kg ATE [Inhalation (dusts and mists)] = 0.21 mg/l Skin Sens. 1, H317: C ≥ 0.036% M [Acute] = 1 M [Chronic] = 1	[1]

See Section 16 for the full text of the H statements declared above.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician. Get medical attention immediately.

Skin contact

Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention.

Inhalation

If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Wash out mouth with water if person is conscious. Get medical attention if symptoms occur.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 4: First aid measures

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Potential acute health effects

Inhalation May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion Irritating to mouth, throat and stomach. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye damage.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.
In case of inhalation of decomposition products in a fire, symptoms may be delayed.
The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use foam or all-purpose dry chemical to extinguish.

Unsuitable extinguishing media Do not use water jet. The use of a water jet may cause the fire to spread by splashing the burning product.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
nitrogen oxides (NO, NO_2 etc.)

5.3 Advice for firefighters

Special precautions for fire-fighters No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Do not breathe vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

For emergency responders Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

SECTION 6: Accidental release measures

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 5 for firefighting measures.
See Section 8 for information on appropriate personal protective equipment.
See Section 12 for environmental precautions.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid contact of spilt material and runoff with soil and surface waterways. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Empty containers retain product residue and can be hazardous. Avoid prolonged or repeated contact with skin. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid and as a result may induce allergic skin reactions. Evaporation of water from soluble cutting fluids during use may lead to an increase in concentration which may result in the development of skin conditions due to irritation and defatting. It is important to monitor fluid strength on a regular basis with a refractometer and maintain it at the recommended concentration. Lubricants from other sources and other contaminants should be minimised. Swarf and other debris should be removed.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 5 to 40°C (41 to 104°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Protect from freezing. Store locked up. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

7.3 Specific end use(s)

Recommendations

See section 1.2 and Exposure scenarios in annex, if applicable.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	**Regulation on the protection of workers from the risks related to exposure to carcinogens, mutagens or reprotoxic substances at work (Slovenia). [mineralna olja] Absorbed through skin.**
2-aminoethanol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia). Absorbed through skin.** TWA: 2.5 mg/m³ 8 hours. Issued/Revised: 12/2018 TWA: 1 ppm 8 hours. Issued/Revised: 12/2018 KTV: 7.6 mg/m³, 4 times per shift, 15 minutes. Issued/Revised: 12/2018 KTV: 3 ppm, 4 times per shift, 15 minutes. Issued/Revised: 12/2018
dicyclohexylamine	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia). Absorbed through skin.** KTV: 1.4 ppm, 4 times per shift, 15 minutes. Issued/Revised: 6/2019 KTV: 10 mg/m³, 4 times per shift, 15 minutes. Issued/Revised: 6/2019 TWA: 0.7 ppm 8 hours. Issued/Revised: 6/2019 TWA: 5 mg/m³ 8 hours. Issued/Revised: 6/2019
Ethylene glycol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia). Absorbed through skin.** TWA: 52 mg/m³ 8 hours. Issued/Revised: 12/2018 TWA: 20 ppm 8 hours. Issued/Revised: 12/2018 KTV: 104 mg/m³, 4 times per shift, 15 minutes. Issued/Revised: 12/2018 KTV: 40 ppm, 4 times per shift, 15 minutes. Issued/Revised: 12/2018
2-(2-butoxyethoxy)ethanol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia).** TWA: 67.5 mg/m³ 8 hours. Issued/Revised: 12/2018 TWA: 10 ppm 8 hours. Issued/Revised: 12/2018 KTV: 101.2 mg/m³, 4 times per shift, 15 minutes. Issued/Revised: 12/2018 KTV: 15 ppm, 4 times per shift, 15 minutes. Issued/Revised: 12/2018

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Biological exposure indices

Product/ingredient name	Exposure indices

No exposure indices known.

Derived No Effect Level

Product/ingredient name	Type	Exposure		Value	Population	Effects
dicyclohexylamine	DNEL	Long term Inhalation	-	0.353 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	-	0.1 mg/kg bw/day	Workers	Systemic
Ethylene glycol	DNEL	Long term Inhalation	-	35 mg/m³	Workers	Local
	DNEL	Long term Dermal	-	106 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	-	7 mg/m³	General population	Local

SECTION 8: Exposure controls/personal protection

	DNEL	Long term Dermal	-	53 mg/kg bw/ day	General population	Systemic
3,5,5-trimethylhexanoic acid	DNEL	Long term Inhalation	-	4.4 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	-	10 mg/m³	Workers	Local
	DNEL	Short term Inhalation	-	10 mg/m³	Workers	Local
	DNEL	Long term Dermal	-	1.25 mg/kg bw/ day	Workers	Systemic
	DNEL	Long term Inhalation	-	1.1 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	-	5 mg/m³	General population	Local
	DNEL	Short term Inhalation	-	5 mg/m³	General population	Local
	DNEL	Long term Dermal	-	0.6 mg/kg bw/ day	General population	Systemic
	DNEL	Long term Oral	-	0.6 mg/kg bw/ day	General population	Systemic

Predicted No Effect Concentration

Product/ingredient name	Compartment Detail	Value	Method Detail
dicyclohexylamine	Fresh water	0.002 mg/l	-
	Marine water	0 mg/l	-
	Sewage Treatment Plant	21 mg/l	-
	Fresh water sediment	0.075 mg/kg dwt	-
	Marine water sediment	0.007 mg/kg dwt	-
	Soil	0.014 mg/kg dwt	-
3,5,5-trimethylhexanoic acid	Fresh water	0.068 mg/l	-
	Marine water	0.007 mg/l	-
	Sewage Treatment Plant	23 mg/l	-
	Fresh water sediment	1.08 mg/kg dwt	-
	Marine water sediment	0.108 mg/kg dwt	-
	Soil	0.176 mg/kg dwt	-

8.2 Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
For protection against metal working fluids, respiratory protection that is classified as “resistant to oil” (class R) or oil proof (class P) should be selected where appropriate. Depending on the level of airborne contaminants, an air-purifying, half-mask respirator (with HEPA filter) including disposable (P- or R-series) (for oil mists less than 50mg/m3), or any powered, air-purifying respirator equipped with hood or helmet and HEPA filter (for oil mists less than 125 mg/m3). Where organic vapours are a potential hazard during metalworking operations, a combination particulate and organic vapour filter may be necessary.
The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Eye/face protection

Chemical splash goggles.

Skin protection

SECTION 8: Exposure controls/personal protection

Hand protection

General Information:

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Wear suitable gloves.
Recommended: Nitrile gloves.
Breakthrough time:

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type.
Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.
If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.
It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

Glove Thickness:

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

Skin and body

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

SECTION 8: Exposure controls/personal protection

Refer to standards:

Respiratory protection: EN 529
Gloves: EN 420, EN 374
Eye protection: EN 166
Filtering half-mask: EN 149
Filtering half-mask with valve: EN 405
Half-mask: EN 140 plus filter
Full-face mask: EN 136 plus filter
Particulate filters: EN 143
Gas/combined filters: EN 14387

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Physical state Liquid.

Colour Yellow. [Light]

Odour Unfragranced

Odour threshold Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range >100°C (>212°F)

Flammability Not available.

Lower and upper explosion limit Not available.

Flash point Closed cup: >100°C (>212°F) [Estimated. Water content interferes with flash point determination.]

Auto-ignition temperature

Ingredient name	°C	°F	Method
Distillates (petroleum), hydrotreated middle	225	437	
2-aminoethanol	410	770	
dicyclohexylamine	255	491	
Ethylene glycol	398	748.4	
2-(2-butoxyethoxy)ethanol	210	410	DIN 51794

Decomposition temperature Not available.

pH 9.7 [Conc. (% w/w): 3%]

Kinematic viscosity Kinematic: 85 mm^2/s (85 cSt) at 40°C

Solubility

Media	Result
water	Emulsifies in water.

Partition coefficient n-octanol/ water (log value) Not applicable.

Vapour pressure

	Vapour Pressure at 20°C			Vapour pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
Water	17.5	2.3				
2-aminoethanol	0.4	0.053				
dicyclohexylamine	0.056	0.0075	EU A.4			
Ethylene glycol	0.09226	0.012				
2-(2-butoxyethoxy) ethanol	0.022	0.0029				

Density and/or Relative density <1000 kg/m^3 (<1 g/cm^3) at 15°C

Relative vapour density Not available.

Particle characteristics

SECTION 9: Physical and chemical properties

Median particle size Not applicable.

9.2 Other information

Evaporation rate Not available.

Explosive properties Not available.

Oxidising properties Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerisation will not occur.

10.4 Conditions to avoid Avoid excessive heat.

10.5 Incompatible materials Reactive or incompatible with the following materials: oxidising materials.
Slightly reactive or incompatible with the following materials: acids.

10.6 Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Product/ingredient name	Result / Route	Test authority / Number		Species	Dose	Exposure	Remarks
Distillates (petroleum), hydrotreated middle	LC50 Inhalation Dusts and mists	OECD	403	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
	LD50 Dermal	OECD	402	Rabbit	>2000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	401	Rat	>5000 mg/kg	-	Based on studies with similar substances.
2-aminoethanol	LC50 Inhalation Vapour	-	-	Rat	1487 mg/m³	6 hours	-
	LD50 Dermal	OECD	402	Rat	2504 mg/kg	-	-
	LD50 Oral	OECD	401	Rat	1089 mg/kg	-	-
dicyclohexylamine	LC50 Inhalation Vapour	-	-	Rat	>1.4 mg/l	6 hours	-
	LD50 Dermal	-	-	Rabbit	200 to 316 mg/kg	-	-
	LD50 Oral	-	-	Rat	200 mg/kg	-	-
Ethylene glycol	LC50 Inhalation Dusts and mists	-	-	Rat	>2.5 mg/l	6 hours	-
	LD50 Dermal	-	-	Mouse	>3500 mg/kg	-	-

SECTION 11: Toxicological information

	LD50 Oral	-	-	Rat	7712 mg/kg	-	-
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-[(9Z)-9-octadecen-1-yloxy]-	LD50 Oral	-	-	Rat	>2000 mg/kg	-	-
Alcohols, C16-18 and C18-unsatd., ethoxylated	LD50 Oral	OECD	401	Rat	>2000 mg/kg	-	-
3,5,5-trimethylhexanoic acid	LD50 Dermal	-	-	Rat	>2000 mg/kg	-	-
	LD50 Oral	OECD	401	Rat	1160 mg/kg	-	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Iloform TRS 6	N/A	5652.9	N/A	222.5	N/A
2-aminoethanol	500	1100	N/A	11	N/A
dicyclohexylamine	100	300	N/A	N/A	N/A
Ethylene glycol	500	N/A	N/A	N/A	N/A
3,5,5-trimethylhexanoic acid	500	N/A	N/A	N/A	N/A
1,2-Benzisothiazol-3(2H)-one	450	N/A	N/A	N/A	0.21

Irritation/Corrosion

Product/ingredient name	Test authority / Test number		Species	Route / Result	Test concentration	Remarks
Distillates (petroleum), hydrotreated middle	OECD	405	Rabbit	Eyes - Not irritant	-	Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Not irritant	-	Based on studies with similar substances.
2-aminoethanol	OECD	-	Rabbit	Eyes - Corrosive	-	-
	OECD	404	Rabbit	Skin - Corrosive	-	-
dicyclohexylamine	-	-	Rabbit	Eyes - Severe irritant	-	-
	-	-	Rabbit	Skin - Corrosive	-	-
Ethylene glycol	-	-	Rabbit	Eyes - Non-irritating to the eyes.	-	-
	-	-	Rabbit	Skin - Non-irritant to skin.	-	-
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-[(9Z)-9-octadecen-1-yloxy]-	OECD	405	Rabbit	Eyes - Severe irritant	-	Based on studies with similar substances.
	-	-	Rabbit	Skin - Non-irritant to skin.	-	Based on studies with similar substances.
3,5,5-trimethylhexanoic acid	OECD	405	Rabbit	Eyes - Severe irritant	-	-
	OECD	404	Rabbit	Skin - Irritant	-	-

Sensitiser

SECTION 11: Toxicological information

Product/ingredient name	Route	Test authority / Test number		Species	Result	Remarks
Distillates (petroleum), hydrotreated middle	skin	OECD	406	Guinea pig	Not sensitising	-
2-aminoethanol	skin	OECD	406	Guinea pig	Not sensitising	-
Ethylene glycol	skin	OECD	406	Guinea pig	Not sensitising	-
3,5,5-trimethylhexanoic acid	skin	OECD	406	Guinea pig	Not sensitising	-

GERM CELL MUTAGENICITY

Product/ingredient name	Test authority / Test number	Cell		Type	Result	Remarks
Distillates (petroleum), hydrotreated middle	471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar substances.
	473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammalian-Animal	Negative	Based on studies with similar substances.
	476 In vitro Mammalian Cell Gene Mutation Test	-	Experiment: In vitro	Subject: Mammalian-Animal	Negative	Based on studies with similar substances.
	474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammalian-Animal	Negative	Based on studies with similar substances.
2-aminoethanol	OECD 471	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	OECD 473	-	Experiment: In vitro	Subject: Mammalian-Animal	Negative	-
	OECD 476	-	Experiment: In vitro	Subject: Mammalian-Animal	Negative	-
dicyclohexylamine	471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	-	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	478 Genetic Toxicology: Rodent Dominant Lethal Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	-
Ethylene glycol	471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-

SECTION 11: Toxicological information

3,5,5-trimethylhexanoic acid	471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	476 In vitro Mammalian Cell Gene Mutation Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-

Carcinogenicity

Not available.

Reproductive toxicity

Product/ ingredient name	Test authority / Test number		Species	Route	Exposure	Developmental	Maternal toxicity	Fertility	Remarks
Distillates (petroleum), hydrotreated middle	OECD	422	Rat	Inhalation	-	Negative	Negative	Negative	Based on studies with similar substances.
2-aminoethanol	OECD	416	Rat	Oral	-	Negative	Negative	Negative	Based on studies with similar substances.
dicyclohexylamine	OECD	421	Rat	Oral	-	Negative	Positive	Negative	-
Ethylene glycol	-	-	Rat	Oral	-	Negative	Negative	Negative	-
3,5,5-trimethylhexanoic acid	OECD	443	Rat	Oral	-	Negative	Positive	Negative	-

Aspiration hazard

Product/ingredient name	Result
Distillates (petroleum), hydrotreated middle	ASPIRATION HAZARD - Category 1

Conclusion/Summary Not classified. Based on available data, the classification criteria are not met.

Conclusion/Summary Not available.

Information on likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Inhalation May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion Irritating to mouth, throat and stomach. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation No specific data.

Ingestion Adverse symptoms may include the following:
stomach pains

Skin contact Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eye contact Adverse symptoms may include the following:
pain
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

SECTION 11: Toxicological information

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

Potential chronic health effects

General May cause damage to organs through prolonged or repeated exposure. (kidney)

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Developmental effects Birth defects and decreased fetal weight have been observed in laboratory animals fed ethylene glycol in large amounts repeatedly during pregnancy.

Fertility effects No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Test authority / Test number		Species	Type / Result	Exposure	Effects	Remarks
Distillates (petroleum), hydrotreated middle	ISO	14669	Other - *Acartia tonsa*	Acute EL50 >1000 mg/l	48 hours	-	Based on studies with similar substances.
	ISO	10253	Algae	Acute ErL50 >10000 mg/l	72 hours	-	Based on studies with similar substances.
	OECD	203	Fish	Acute LL50 >1028 mg/l	96 hours	-	Based on studies with similar substances.
2-aminoethanol	OECD	202	Daphnia	Acute EC50 27.04 mg/l	48 hours	-	-
	OECD	201	Algae	Acute ErC50 2.8 mg/l	72 hours	-	-
	OECD	203	Fish	Acute LC50 >100 mg/l	96 hours	-	-
	-	-	Algae	Chronic ECr10 0.7 mg/l	72 hours	-	-
	OECD	211	Daphnia	Chronic NOEC 0.85 mg/l	21 days	-	-
	OECD	210	Fish	Chronic NOEC 1.24 mg/l	41 days	-	-
dicyclohexylamine	DIN	38412 Part 11	Daphnia	Acute EC50 43 mg/l	48 hours	-	-
	DIN	38412 Part 8	Micro-organism	Acute EC50 201 mg/l	17 hours	-	-
	OECD	201	Algae	Acute ErC50 1 mg/l	72 hours	-	-
	OECD	203	Fish	Acute LC50 62 mg/l	96 hours	-	-
	OECD	201	Daphnia	Chronic NOEC 2 mg/l	72 hours	-	-
	OECD	211	Fish	Chronic NOEC 0.016 mg/l	21 days	-	-

SECTION 12: Ecological information

Ethylene glycol	OECD	201	Algae	Acute EC50 >100 mg/l	72 hours	-	-
	OECD	202	Daphnia	Acute EC50 >100 mg/l	48 hours	-	-
	-	-	Fish	Acute LC50 >1000 mg/l	96 hours	-	-
	OECD	201	Algae	Chronic NOEC >100 mg/l	72 hours	-	-
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-[(9Z) -9-octadecen-1-yloxy]-	OECD	202	Daphnia	Acute EC50 28.2 mg/l	48 hours	-	-
	OECD	209	Micro-organism	Acute EC50 620 mg/l	3 hours	-	-
	OECD	201	Algae	Acute ErC50 >200 mg/l	72 hours	-	-
	OECD	203	Fish	Acute LC50 5 to 10 mg/l	96 hours	-	-
3,5,5-trimethylhexanoic acid	OECD	201	Algae	Acute EC50 81 mg/l	72 hours	-	-
	OECD	202	Daphnia	Acute EC50 68 mg/l	48 hours	-	-
	OECD	209	Micro-organism	Acute EC50 470 mg/l	3 hours	-	-
	OECD	203	Fish	Acute LC50 123 mg/l	96 hours	-	-
	OECD	201	Algae	Chronic NOEC 10 mg/l	72 hours	-	-

Environmental hazards Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Expected to be biodegradable.

Product/ingredient name	Test authority / Test number	Result - Exposure	Remarks
Distillates (petroleum), hydrotreated middle	OECD 301F	60 % - Readily - 28 days	-
2-aminoethanol	OECD 301A	>90 % - Readily - 21 days	-
dicyclohexylamine	OECD 301D	96 % - Readily - 20 days	-
Ethylene glycol	OECD 301A	>90 % - Readily - 10 days	-
Poly(oxy-1,2-ethanediyl), α-(carboxymethyl)-ω-[(9Z) -9-octadecen-1-yloxy]-	OECD 301E	73 % - Readily - 28 days	-
3,5,5-trimethylhexanoic acid	OECD 301A	96 % - Readily - 21 days	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
dicyclohexylamine	-	-	Readily

12.3 Bioaccumulative potential

Not available.

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2-aminoethanol	-2.3	-	Low
dicyclohexylamine	2.724	-	Low
ethanediol	-1.36	-	Low
Alcohols, C16-18 and C18-unsatd., ethoxylated	4.2	-	High
2-(2-butoxyethoxy)ethanol	1	-	Low
3,5,5-trimethylhexanoic acid	3.2	-	Low

SECTION 12: Ecological information

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Liquid. Emulsifies in water.

12.5 Results of PBT and vPvB assessment

Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

12.6 Endocrine disrupting properties Not available.

12.7 Other adverse effects No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal Undiluted fluid Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations. Diluted Fluid The spent diluted fluid comprises a relatively stable emulsion. Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques (e.g. emulsion splitting, coagulation and filtration) approved by the local authority. Spent fluid should never be disposed of down the drain. The aqueous phase should not be discharged into sewage systems unless provided for by local regulations; the non-aqueous phase should be disposed of as undiluted fluid. Note that separated aqueous solutions or effluents may contain metal salts as well as traces of oil and must be checked for conformity in these respects against consents given by the authorities before disposal. Further treatment may be required.

Hazardous waste Yes.

European waste catalogue (EWC)

Waste code	Waste designation
12 01 10*	synthetic machining oils
12 01 09*	machining emulsions and solutions free of halogens

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

Packaging

Methods of disposal Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Waste code	European waste catalogue (EWC)
15 01 10*	packaging containing residues of or contaminated by hazardous substances

Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Slovenia - Hazardous waste This product is classified as dangerous according to Slovenian waste treatment rules [Ur.l. RS, No. 45/2000 as amended and adapted].

References Commission 2014/955/EU
Directive 2008/98/EC

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-

SECTION 14: Transport information

14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions for user Not available.

14.7 Maritime transport in bulk according to IMO instruments Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
Iloform TRS 6	95-100	3
2-(2-butoxyethoxy)ethanol	1-5	55 [Consumer paint]
dodecamethylcyclohexasiloxane	<0.001	70
decamethylcyclopentasiloxane	<0.001	70
octamethylcyclotetrasiloxane	<0.001	70

Labelling Not applicable.

Other regulations

REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

United States inventory (TSCA 8b) All components are active or exempted.

Australia inventory (AIIC) At least one component is not listed.

Canada inventory At least one component is not listed.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (CSCL) All components are listed or exempted.

Korea inventory (KECI) At least one component is not listed.

Philippines inventory (PICCS) At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

Explosive precursors Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

EU - Water framework directive - Priority substances

None of the components are listed.

Seveso Directive

SECTION 15: Regulatory information

This product is not controlled under the Seveso Directive.

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for one or more of the substances within this mixture. A Chemical Safety Assessment has not been carried out for the mixture itself.

SECTION 16: Other information

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SADT = Self-Accelerating Decomposition Temperature
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVCB = Complex hydrocarbon substance
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
Varies = may contain one or more of the following 64741-88-4 / RRN 01-2119488706-23, 64741-89-5 / RRN 01-2119487067-30, 64741-95-3 / RRN 01-2119487081-40, 64741-96-4/ RRN 01-2119483621-38, 64742-01-4 / RRN 01-2119488707-21, 64742-44-5 / RRN 01-2119985177-24, 64742-45-6, 64742-52-5 / RRN 01-2119467170-45, 64742-53-6 / RRN 01-2119480375-34, 64742-54-7 / RRN 01-2119484627-25, 64742-55-8 / RRN 01-2119487077-29, 64742-56-9 / RRN 01-2119480132-48, 64742-57-0 / RRN 01-2119489287-22, 64742-58-1, 64742-62-7 / RRN 01-2119480472-38, 64742-63-8, 64742-65-0 / RRN 01-2119471299-27, 64742-70-7 / RRN 01-2119487080-42, 72623-85-9 / RRN 01-2119555262-43, 72623-86-0 / RRN 01-2119474878-16, 72623-87-1 / RRN 01-2119474889-13

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315	Expert judgment
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 3, H412	Expert judgment

SECTION 16: Other information

Full text of abbreviated H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

History

Date of issue/ Date of revision	06/05/2025.
Date of previous issue	13/11/2024.
Prepared by	Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	457330-FR01
Product name	Iloform TRS 6

Section 1: Title

Short title of the exposure scenario	Handling and dilution of metal working fluid concentrates - Industrial
List of use descriptors	**Identified use name:** Handling and dilution of metal working fluid concentrates-Industrial **Process Category:** PROC01, PROC02, PROC08b, PROC05 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC02 **Specific Environmental Release Category:** ATIEL-ATC SPERC 2.Ei.v1
Processes and activities covered by the exposure scenario	Handling and dilution of metal working fluid concentrates. Includes associated product storage, material transfers, sampling and maintenance activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

Filling of equipment from drums or containers:
Avoid carrying out activities involving exposure for more than 4 hours per day.

Process sampling:
Avoid carrying out activities involving exposure for more than 4 hours per day.

Equipment cleaning and maintenance:
Drain down system prior to equipment break-in or maintenance. Avoid carrying out activities involving exposure for more than 4 hours per day. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:	3.02E+02 Tonnes/year
EU tonnage of risk determining substance per year:	3.02E+02 Tonnes/year
Frequency and duration of use:	
Emission days	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other conditions affecting environmental exposure:	Water-based (oil in water emulsion) or straight oil (contains no water) process
Release fraction to air (after typical onsite RMMs)	5.00E-05
Release fraction to soil from process (after typical onsite RMMs)	0
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	No data available
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and waste water to be discharged via a sewage treatment plant
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment	No data available
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	No data available
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	Used ECETOC TRA model (May 2010 release).

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES
Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	457330-FR01
Product name	Iloform TRS 6

Section 1: Title

Short title of the exposure scenario	Use of lubricants in high energy open processes - Industrial
List of use descriptors	**Identified use name:** Use of lubricants in high energy open processes-Industrial **Process Category:** PROC01, PROC02, PROC08b, PROC17 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04 **Specific Environmental Release Category:** ATIEL-ATC SPERC 4.Fi.v1
Processes and activities covered by the exposure scenario	Covers use of lubricants in high energy open processes, e.g. In high speed machinery such as metal rolling/forming or metal working fluids for machining and grinding. Includes associated product storage, material transfers, sampling and maintenance activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

Filling of equipment from drums or containers:
No specific measures identified.

Metal machining operations:
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Operation and lubrication of high energy open equipment:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Automated metal rolling/forming Use in contained systems Operation is carried out at elevated temperature (> 20°C above ambient temperature):
No other specific measures identified.

Semi-automated metal rolling/forming Open systems Operation is carried out at elevated temperature (> 20°C above ambient temperature):
Provide extract ventilation to points where emissions occur.

Equipment cleaning and maintenance:
Drain down system prior to equipment break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Storage:

Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:	
EU tonnage of risk determining substance per year:	2.05E+02 Tonnes/year
Frequency and duration of use:	
Emission days	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other conditions affecting environmental exposure:	Water-based (oil in water emulsion) or straight oil (contains no water) process
Release fraction to air (after typical onsite RMMs)	5.00E-05
Release fraction to soil from process (after typical onsite RMMs)	0
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	Not available.
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and waste water to be discharged via a sewage treatment plant
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	Not available.
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	Used ECETOC TRA model (May 2010 release).

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES

Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	457330-FR01
Product name	Iloform TRS 6

Section 1: Title

Short title of the exposure scenario	Use of lubricants in high energy open processes - Professional
List of use descriptors	**Identified use name:** Use of lubricants in high energy open processes-Professional **Process Category:** PROC01, PROC02, PROC08a, PROC17 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a **Specific Environmental Release Category:** ATIEL-ATC SpERC 8.7c.v1
Processes and activities covered by the exposure scenario	Covers use of lubricants in high energy open processes, e.g. In high speed machinery such as metal rolling/forming or metal working fluids for machining and grinding. Includes associated product storage, material transfers, sampling and maintenance activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

Filling of equipment from drums or containers:
Avoid carrying out activities involving exposure for more than 1 hour per day.

Metal machining operations:
Provide extract ventilation to points where emissions occur.

Operation and lubrication of high energy open equipment:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 4 hours per day. Wear a respirator conforming to EN140 with type A filter or better. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Equipment cleaning and maintenance:
Drain down system prior to equipment break-in or maintenance. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Avoid carrying out activities involving exposure for more than 4 hours per day. Wear a respirator conforming to EN140 with type A filter or better. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:	
EU tonnage of risk determining substance per year:	2.05E+02 Tonnes/year
Frequency and duration of use:	
Emission days	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other conditions affecting environmental exposure:	Negligible wastewater emissions as process operates without water contact.
Release fraction to air (after typical onsite RMMs)	5.00E-05
Release fraction to soil from process (after typical onsite RMMs)	1E-03
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	Not available.
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater.
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	Not available.
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	Used ECETOC TRA model (May 2010 release).

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES
Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.