SAFETY DATA SHEET



Iloform PN 223

Section 1. Identification

GHS product identifier Iloform PN 223
Product code 460668-AU22
SDS no. 460668

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

Use of the substance/ Metalworking fluid - neat.

mixture For specific application advice see appropriate Technical Data Sheet or consult our

company representative.

Manufacturer

Supplier Castrol Australia Pty Ltd

Level 17, 717 Bourke Street Docklands, Victoria 3008 ABN 87 008 459 407 www.castrol.com.au

Tel: +61 (03) 9268 4111

EMERGENCY TELEPHONE

NUMBER

+61 2801 44558 (or 1800 14 14 74 within Australia)

OTHER PRODUCT INFORMATION

Technical Advice Helpline Number: 1300 557 998

Section 2. Hazard(s) identification

Classification of the substance or mixture FLAMMABLE LIQUIDS - Category 4
ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms



Signal word DANGER

Hazard statements H227 - Combustible liquid.

H304 - May be fatal if swallowed and enters airways.

Precautionary statements

Prevention P280 - Wear protective gloves, protective clothing and eye or face protection.

P210 - Keep away from flames and hot surfaces. No smoking.

Response P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or

physician. Do NOT induce vomiting.

Storage P405 - Store locked up.

P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal P501 - Dispose of contents and container in accordance with all local, regional,

national and international regulations.

Supplemental label

elements

Not applicable.

Other hazards which do not

result in classification

None known.

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Section 3. Composition and ingredient information

Substance/mixture

Mixture

Hydrocarbon solvent and additives.

Ingredient name	% (w/w)	CAS number
ydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	≥90	64742-47-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

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

Section 4. First aid measures

Description of necessary 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. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Skin contact Flush contaminated skin with plenty of water. Drench contaminated clothing with

water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Remove contaminated clothing and shoes. Clean shoes thoroughly before reuse. Get

medical attention if symptoms occur.

Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person. If

unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical

attention immediately.

Most important symptoms/effects, acute and delayed

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

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physicianTreatment should in general be symptomatic and directed to relieving any effects.

Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only

after endotracheal intubation. Monitor for cardiac dysrhythmias.

Specific treatments No specific treatment.

Protection of first-aidersNo action shall be taken involving any personal risk or without suitable training. It

may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing

Use dry chemical, CO₂, water spray (fog) or foam.

media
Unsuitable extinguishing

Do not use water jet.

media

Specific hazards arising from the chemical

Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may

create fire or explosion hazard.

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Section 5. Firefighting measures

Hazardous thermal decomposition products None expected.

Special protective actions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Fire-fighters' protective clothing will only provide limited protection.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Immediately 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. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.

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".

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).

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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilt product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosionproof electrical (ventilating, lighting and material handling) equipment. Use only nonsparking tools. To avoid fire or explosion, dissipate static electricity during transfer

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Section 7. Handling and storage

by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. 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. Keep away from ignition sources such as heat/sparks/open flame. - No smoking. Concentrations of mist, fumes and vapours in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided.

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.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated light	ACGIH TLV (United States). Absorbed through skin. TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours. Issued/Revised: 1/2003

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

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.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. 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.

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.

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Section 8. Exposure controls and personal protection

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.

Eye/face protection

Skin protection

Hand protection

Safety glasses with side shields.

Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of

the working conditions.

Skin protection 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.

Wear clothing and footwear that cannot be penetrated by chemicals or oil. 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.

Other skin protection Appropriate footwear and any additional skin protection measures should be

selected based on the task being performed and the risks involved and should be

approved by a specialist before handling this product.

Respiratory protection Use with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended: half-face mask - organic vapor filter (Type A).

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.

Refer to standards: Respiratory protection: AS/NZS 1715 and AS/NZS 1716

Gloves: AS/NZS 2161.1

Eye protection: AS/NZS 1336 and AS/NZS 1337

Section 9. Physical and chemical properties

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

Appearance

Physical state Liquid.
Colour Amber.

Odour Not available.

Odour threshold Not available.

PH Not applicable.

Melting point Not available.

Boiling point, initial boiling Not available.

point, and boiling range

Flash point Closed cup: 62°C (143.6°F) [Pensky-Martens]

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Section 9. Physical and chemical properties

Evaporation rate

Not available.

Not applicable. Based on - Physical state

Lower and upper explosion limit/flammability limit

Not available.

Vapour pressure

	Vapour Pressure at 20°C			sure at 20°C Vapour pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics		0.031 to 0.06				

Relative vapour density

Relative density Not available.

Density

<1000 kg/m³ (<1 g/cm³) at 15°C

Solubility(ies)

Not available.

octanol/water

Solubility in water Partition coefficient: nNot available.

Not applicable.

Not available.

Auto-ignition temperature

 Ingredient name
 °C
 °F
 Method

 Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics</td>
 >220
 >428

Decomposition temperature

Not available.

Viscosity

Kinematic: 2 mm²/s (2 cSt) at 40°C

Particle characteristics

Median particle size Not applicable.

Section 10. Stability and reactivity

Reactivity No specific test data available for this product. Refer to Conditions to avoid and

Incompatible materials for additional information.

Chemical stability

Possibility of hazardous

reactions

products

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

occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame). Avoid excessive heat. Do

not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or

sources of ignition.

The product is stable.

Incompatible materials

Reactive or incompatible with the following materials: oxidising materials.

Hazardous decomposition

Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Aspiration hazard

Name Result

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% ASF

aromatics

kanes, cyclics, <2% ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

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Section 11. Toxicological information

Eye contact No known significant effects or critical hazards.

Inhalation Vapour inhalation under ambient conditions is not normally a problem due to low

vapour pressure.

Skin contactNo known significant effects or critical hazards.

Ingestion Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Ingestion of large quantities may cause nausea and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Inhalation Exposure to high concentrations can cause dizziness, lightheadedness, headache,

nausea and blurred vision. Higher levels may cause unconsciousness.

May be harmful by inhalation if exposure to vapour, mists or fumes resulting from

thermal decomposition products occurs.

Skin contact No specific data.

Ingestion Adverse symptoms may include the following:

nausea or vomiting

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.

GeneralNo known significant effects or critical hazards.CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.Developmental effectsNo known significant effects or critical hazards.Fertility effectsNo known significant effects or critical hazards.

Section 12. Ecological information

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition Not available. coefficient (Koc)

Mobility Volatile. Liquid. insoluble in water.

Other adverse effects No known significant effects or critical hazards.

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Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Special Precautions for Landfill or Incineration No additional special precautions identified.

Section 14. Transport information

	ADG	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user Not available.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

International lists

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Section 15. Regulatory information

National inventory

REACH Status For the REACH status of this product please consult your company contact, as

identified in Section 1.

Australia inventory (AIIC) All components are listed or exempted. All components are listed or exempted. Canada inventory

China inventory (IECSC) All components are listed or exempted. Japan inventory (CSCL) All components are listed or exempted. **Korea inventory (KECI)** All components are listed or exempted. All components are listed or exempted.

Philippines inventory

(PICCS)

All components are listed or exempted.

Taiwan Chemical Substances Inventory

(TCSI)

United States inventory

(TSCA 8b)

All components are active or exempted.

Section 16. Any other relevant information

History

Date of printing 8/16/2023 Date of issue/Date of 8/16/2023

revision

Date of previous issue 8/15/2023 2.02 Version

Prepared by Product Stewardship

Key to abbreviations ADG = Australian Dangerous Goods

ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor

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) NOHSC = National Occupational Health and Safety Commission

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals

Regulation [Regulation (EC) No. 1907/2006]

STEL = Short term exposure limit

SUSMP = Standard Uniform Schedule of Medicine and Poisons

UN = United Nations

TWA = Time weighted average VOC = Volatile Organic Compound

SADT = Self-Accelerating Decomposition Temperature

Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0,

72623-87-1

Procedure used to derive the classification

Classification	Justification
5 ,	On basis of test data Calculation method

Indicates information that has changed from previously issued version.

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Section 16. Any other relevant information

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.

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Format Australia (Australia)

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SAFETY DATA SHEET



Iloform PN 224

Section 1. Identification

GHS product identifier Iloform PN 224 **Product code** 456930-AU15 SDS no. 456930

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

Use of the substance/ Metalworking fluid - neat.

For specific application advice see appropriate Technical Data Sheet or consult our mixture

company representative.

Manufacturer

Supplier Castrol Australia Pty Ltd

> Level 17, 717 Bourke Street Docklands, Victoria 3008 ABN 87 008 459 407 www.castrol.com.au

Tel: +61 (03) 9268 4111

EMERGENCY TELEPHONE

NUMBER

+61 2801 44558 (or 1800 14 14 74 within Australia)

OTHER PRODUCT **INFORMATION**

Technical Advice Helpline Number: 1300 557 998

Section 2. Hazard(s) identification

Classification of the FLAMMABLE LIQUIDS - Category 3

REPRODUCTIVE TOXICITY - Effects on or via lactation substance or mixture

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) -

ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms







Signal word **DANGER**

Hazard statements H226 - Flammable liquid and vapour.

H304 - May be fatal if swallowed and enters airways.

H336 - May cause drowsiness or dizziness. H362 - May cause harm to breast-fed children.

Precautionary statements

Prevention P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P271 - Use only outdoors or in a well-ventilated area.

P261 - Avoid breathing vapour.

P263 - Avoid contact during pregnancy and while nursing. P270 - Do not eat, drink or smoke when using this product.

P264 - Wash hands thoroughly after handling.

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Section 2. Hazard(s) identification

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

P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or

physician. Do NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water.

Storage P405 - Store locked up.

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal P501 - Dispose of contents and container in accordance with all local, regional,

national and international regulations.

Supplemental label

elements

Not applicable.

Other hazards which do not result in classification

Defatting to the skin.

Section 3. Composition and ingredient information

Substance/mixture

Mixture

Hydrocarbon solvent and additives

Ingredient name	% (w/w)	CAS number
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	≥90	64742-48-9
Alkanes, C14-17, chloro	≤3	85535-85-9

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

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

Section 4. First aid measures

Description of necessary 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. Get medical attention.

Inhalation If inhaled, remove to fresh air. Get medical attention. If exposure to vapour, mists

or fumes causes drowsiness, headache, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep patient warm and at rest. If any

symptoms persist obtain medical advice.

Skin contact Wash skin thoroughly with soap and water or use recognised skin cleanser. Drench

contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing.

Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear,

must be discarded. Remove contaminated clothing and shoes. Clean shoes

thoroughly before reuse. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person. If

unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical

attention immediately.

Most important symptoms/effects, acute and delayed

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

Indication of immediate medical attention and special treatment needed, if necessary

Product name Iloform PN 224 Product code 456930-AU15 Page: 2/11

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Section 4. First aid measures

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only

after endotracheal intubation. Monitor for cardiac dysrhythmias.

Specific treatments

atments No specific treatment.

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

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.

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing

media

Unsuitable extinguishing

media

Use dry chemical, CO₂, water spray (fog) or foam.

Do not use water jet.

Specific hazards arising from the chemical

Flammable liquid and vapour. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion

hazard.

Hazardous thermal decomposition products

Combustion products may include the following:

halogenated compounds

carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

Special protective actions 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. Move containers from fire area if this can be done without risk. Use

water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Fire-fighters' protective clothing will only provide

limited protection.

Hazchem code

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

•3Y

For non-emergency personnel

Immediately 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. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.

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".

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Section 6. Accidental release measures

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.

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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilt product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid exposure obtain special instructions before use. Avoid contact during pregnancy or while nursing. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Avoid contact of spilt material and runoff with soil and surface waterways. 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. Keep away from ignition sources such as heat/sparks/open flame. -No smoking. Concentrations of mist, fumes and vapours in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided.

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.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent

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Section 7. Handling and storage

leakage. Do not store in unlabelled containers. Use appropriate containment to

avoid environmental contamination.

Not suitable Prolonged exposure to elevated temperature

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	DFG MAC-values list (Germany). TWA: 50 ppm 8 hours. Issued/Revised: 7/2013 TWA: 300 mg/m³ 8 hours. Issued/Revised: 7/2013 PEAK: 100 ppm, 4 times per shift, 15 minutes. Issued/Revised: 7/2013 PEAK: 600 mg/m³, 4 times per shift, 15 minutes. Issued/Revised: 7/2013

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

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.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. 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.

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.

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.

Eye/face protection
Skin protection
Hand protection

Safety glasses with side shields.

Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of

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Section 8. Exposure controls and personal protection

the working conditions.

Use of protective clothing is good industrial practice. **Skin protection**

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.

Wear clothing and footwear that cannot be penetrated by chemicals or oil. 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.

Other skin protection Appropriate footwear and any additional skin protection measures should be

selected based on the task being performed and the risks involved and should be

approved by a specialist before handling this product.

Respiratory protection Use with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended: half-face mask - organic vapor filter (Type A).

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.

Refer to standards: Respiratory protection: AS/NZS 1715 and AS/NZS 1716

Gloves: AS/NZS 2161.1

Eye protection: AS/NZS 1336 and AS/NZS 1337

Section 9. Physical and chemical properties

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

Appearance

Physical state Liquid.

Colour Yellow. [Light] **Odour** Not available. **Odour threshold** Not available. pН Not applicable. **Melting point** Not available. **Boiling point, initial boiling** Not available.

point, and boiling range

Flash point Closed cup: 35°C (95°F) [Pensky-Martens]

Evaporation rate Not available.

Not applicable. Based on - Physical state

Lower and upper explosion limit/flammability limit

Vapour pressure

Not available.

	Vapou	Vapour Pressure at 20°C			Vapour pressure at 5	
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	0.75 to 2.25	0.1 to 0.3				
Alkanes, C14-17, chloro	0	0				

Relative vapour density

Not available. Not available.

Relative density

Density

<1000 kg/m³ (<1 g/cm³) at 15°C

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Section 9. Physical and chemical properties

Solubility(ies)

Media	Result
water	Not soluble

Solubility in water Partition coefficient: n-

octanol/water

Not available. Not applicable.

Auto-ignition temperature

Ingredient name	°C	°F	Method
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	280 to 470	536 to 878	

Decomposition temperature

Not available.

Viscosity Particle characteristics Kinematic: 0.8 to 1.5 mm²/s (0.8 to 1.5 cSt) at 40°C

Median particle size Not applicable.

Section 10. Stability and reactivity

Reactivity No specific test data available for this product. Refer to Conditions to avoid and

Incompatible materials for additional information.

The product is stable. Chemical stability

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

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Reactive or incompatible with the following materials: oxidising materials. **Incompatible materials**

Hazardous decomposition

products

Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Specific target organ toxicity (single exposure)

Name Category Route of **Target organs** exposure

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, Category 3 Narcotic effects

<2% aromatics

Aspiration hazard

Name Result

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics ASPIRATION HAZARD - Category 1

Information on likely routes

of exposure

Routes of entry anticipated: Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation Can cause central nervous system (CNS) depression. May cause drowsiness or

dizziness.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

Ingestion Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Ingestion of large quantities may cause nausea and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

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Section 11. Toxicological information

Inhalation Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

Exposure to high concentrations can cause dizziness, lightheadedness, headache,

nausea and blurred vision. Higher levels may cause unconsciousness.

May be harmful by inhalation if exposure to vapour, mists or fumes resulting from

thermal decomposition products occurs.

Skin contact Adverse symptoms may include the following:

irritation dryness cracking

reduced foetal weight increase in foetal deaths skeletal malformations

Ingestion Adverse symptoms may include the following:

nausea or vomiting reduced foetal weight increase in foetal deaths skeletal malformations

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

GeneralNo known significant effects or critical hazards.CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.

Developmental effects May cause harm to breast-fed children.

Fertility effects No known significant effects or critical hazards.

Section 12. Ecological information

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (Koc)

Not available.

Mobility

Volatile. Liquid. insoluble in water.

Other adverse effects No known significant effects or critical hazards.

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Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Special Precautions for Landfill or Incineration No additional special precautions identified.

Section 14. Transport information

	ADG	IMDG	IATA
UN number	UN1993	UN1993	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Naphtha (petroleum), hydrotreated heavy)	Flammable liquid, n.o.s. (Naphtha (petroleum), hydrotreated heavy). Marine pollutant (Alkanes, C14-17, chloro)	Flammable liquid, n.o.s. (Naphtha (petroleum), hydrotreated heavy)
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	Hazchem code •3Y Initial emergency response guide 14	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations. Remarks Environmentally hazardous substance mark.

Special precautions for user Not available.

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Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

International lists

National inventory

REACH Status For the REACH status of this product please consult your company contact, as

identified in Section 1.

Australia inventory (AllC)
Canada inventory
At least one component is not listed.
China inventory (IECSC)
All components are listed or exempted.
All components are listed or exempted.
Korea inventory (KECI)
All components are listed or exempted.

(PICCS)

Taiwan Chemical Substances Inventory

(TCSI)

United States inventory

(TSCA 8b)

All components are listed or exempted.

At least one component is not listed.

Section 16. Any other relevant information

History

Date of printing 8/16/2023

Date of issue/Date of 8/16/2023

revision

Date of previous issue 8/15/2023 **Version** 5.02

Prepared by Product Stewardship

Key to abbreviationsADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

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) NOHSC = National Occupational Health and Safety Commission

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals

Regulation [Regulation (EC) No. 1907/2006]

STEL = Short term exposure limit

SUSMP = Standard Uniform Schedule of Medicine and Poisons

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Section 16. Any other relevant information

UN = United Nations
TWA = Time weighted average
VOC = Volatile Organic Compound
SADT = Self-Accelerating Decomposition Temperature
Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

Procedure used to derive the classification

Classification	Justification
REPRODUCTIVE TOXICITY - Effects on or via lactation	On basis of test data Calculation method Calculation method
` ,	Calculation method

▼ 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.

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Product code 456930-AU15

SAFETY DATA SHEET



Iloform TDN 81

Section 1. Identification

GHS product identifier Iloform TDN 81 **Product code** 450946-AU22 SDS no. 450946

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

Use of the substance/ Metalworking fluid - neat.

For specific application advice see appropriate Technical Data Sheet or consult our mixture

company representative.

Manufacturer

Supplier Castrol Australia Pty Ltd

> Level 17, 717 Bourke Street Docklands, Victoria 3008 ABN 87 008 459 407 www.castrol.com.au

Tel: +61 (03) 9268 4111

EMERGENCY TELEPHONE

NUMBER

+61 2801 44558 (or 1800 14 14 74 within Australia)

OTHER PRODUCT

INFORMATION

Technical Advice Helpline Number: 1300 557 998

Section 2. Hazard(s) identification

Classification of the

substance or mixture

REPRODUCTIVE TOXICITY - Effects on or via lactation

GHS label elements

Signal word No signal word.

Hazard statements H362 - May cause harm to breast-fed children.

Precautionary statements

Prevention P201 - Obtain special instructions before use.

> P263 - Avoid contact during pregnancy or while nursing. P270 - Do not eat, drink or smoke when using this product.

P264 - Wash hands thoroughly after handling.

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

Storage Not applicable. **Disposal** Not applicable. Supplemental label Not applicable.

elements

Other hazards which do not

Defatting to the skin. result in classification

Product name Iloform TDN 81 Product code 450946-AU22 Page: 1/10

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Section 3. Composition and ingredient information

Substance/mixture

Mixture

Highly refined mineral oil and additives

Ingredient name	% (w/w)	CAS number
Alkanes, C14-17, chloro	≥75 - ≤90	85535-85-9
Distillates (petroleum), solvent-dewaxed heavy paraffinic	≤10	64742-65-0
Distillates (petroleum), hydrotreated heavy paraffinic	≤10	64742-54-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary 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. Get medical attention.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

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. Get medical attention if symptoms occur.

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. Get medical attention if adverse

health effects persist or are severe.

Most important symptoms/effects, acute and delayed

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

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. It

may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing

media

Ingestion

In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing

media

Do not use water jet.

Specific hazards arising

from the chemical

Swarf fires - Neat metal working oils may fume, thermally decompose or ignite if they come into contact with red hot swarf. To minimise the generation of red hot swarf ensure that a sufficient flow of oil is correctly directed to the cutting edge of the tool to flood it throughout cutting operations. As an additional precaution swarf should be regularly cleared from the immediate area to prevent the risk of fire. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure

increase will occur and the container may burst.

Hazardous thermal decomposition products Combustion products may include the following:

halogenated compounds

carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

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Section 5. Firefighting measures

Special protective actions 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.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Hazchem code

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Section 6. Accidental release measures

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. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

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".

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.

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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Fut on appropriate personal protective equipment (see Section 8). Avoid exposure obtain special instructions before use. Avoid contact during pregnancy or while nursing. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Avoid contact of spilt material and runoff with soil and surface waterways. Concentrations of mist, fumes and vapours in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided. 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, as can bacteria, and as a result may induce allergic and other skin reactions, especially if personal hygiene is inadequate.

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Product name Iloform TDN 81 Product code 450946-AU22 Page: 3/10

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Section 7. Handling and storage

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.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
vistillates (petroleum), solvent-dewaxed heavy paraffinic	Safe Work Australia (Australia). TWA: 5 mg/m³ 8 hours. Issued/Revised: 5/1995 Form: Mist
Distillates (petroleum), hydrotreated heavy paraffinic	Safe Work Australia (Australia). TWA: 5 mg/m³ 8 hours. Issued/Revised: 5/1995 Form: Mist

Appropriate engineering controls

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.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. 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.

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.

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.

Eye/face protection

Skin protection

Safety glasses with side shields.

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Section 8. Exposure controls and personal protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Skin protection

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.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be

approved by a specialist before handling this product.

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.

Refer to standards:

Respiratory protection: AS/NZS 1715 and AS/NZS 1716

Gloves:AS/NZS 2161.1

Eye protection: AS/NZS 1336 and AS/NZS 1337

Section 9. Physical and chemical properties

Appearance

Physical state
Colour
Amber.
Odour
Not available.
Odour threshold
PH
Not available.
Melting point
Not available.
Not available.
Not available.
Not available.
Not available.

Flash point Closed cup: 208°C (406.4°F) [Pensky-Martens.]

Evaporation rate Not available.

Flammability (solid, gas) Not applicable. Based on - Physical state

Lower and upper explosive

(flammable) limits

Not available.

Vapour pressure Not available.
Vapour density Not available.

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Section 9. Physical and chemical properties

Relative density Not available.

>1000 kg/m3 (>1 g/cm3) at 15°C **Density**

Solubility insoluble in water. Partition coefficient: n-Not available.

octanol/water

Not available. **Auto-ignition temperature Decomposition temperature** Not available.

Kinematic: 140 mm²/s (140 cSt) at 40°C **Viscosity**

Section 10. Stability and reactivity

Reactivity No specific test data available for this product. Refer to Conditions to avoid and

Incompatible materials for additional information.

Chemical stability The product is stable.

Possibility of hazardous

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

Under normal conditions of storage and use, hazardous polymerisation will not

occur.

Conditions to avoid Avoid excessive heat.

Incompatible materials Reactive or incompatible with the following materials: oxidising materials.

Hazardous decomposition Under normal conditions of storage and use, hazardous decomposition products

products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Information on likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation Vapour inhalation under ambient conditions is not normally a problem due to low

vapour pressure.

Skin contact Defatting to the skin. May cause skin dryness and irritation.

No known significant effects or critical hazards. Ingestion

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data. Inhalation No specific data.

Skin contact Adverse symptoms may include the following:

> irritation dryness cracking

reduced foetal weight increase in foetal deaths skeletal malformations

Ingestion Adverse symptoms may include the following:

reduced foetal weight increase in foetal deaths skeletal malformations

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

Eve contact Potential risk of transient stinging or redness if accidental eye contact occurs. Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation

of the respiratory tract.

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Section 11. Toxicological information

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/

or dermatitis.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

GeneralNo known significant effects or critical hazards.CarcinogenicityNo known significant effects or critical hazards.MutagenicityNo known significant effects or critical hazards.TeratogenicityNo known significant effects or critical hazards.

Developmental effects May cause harm to breast-fed children.

Fertility effects No known significant effects or critical hazards.

Section 12. Ecological information

Persistence and degradability

Not expected to be rapidly degradable.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition

Not available.

coefficient (Koc)
Mobility

Non-volatile. Liquid. insoluble in water.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Special Precautions for Landfill or Incineration No additional special precautions identified.

Section 14. Transport information

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Section 14. Transport information

	<u> </u>				
	ADG	IMDG	IATA		
UN number	UN3082	UN3082	UN3082		
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Alkanes, C14-17, chloro)	Environmentally hazardous substance, liquid, n.o.s Marine pollutant (Alkanes, C14-17, chloro)	Environmentally hazardous substance, liquid, n.o.s. (Alkanes, C14-17, chloro)		
Transport hazard class(es)	9	9	9		
Packing group	III	III	III		
Environmental hazards	Yes.	Yes.	Yes.		
Additional information	The product is not regulated as a dangerous good when transported by road or rail in either an IBC, or in other container types if ≤500 kg. This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Hazchem code •3Z	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Emergency schedules F-A, S-F	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.		

Special precautions for user Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Montreal Protocol (Annexes A, B, C, E)

Ingredient name Not listed.	List name	Status		
Stockholm Convention on Persistent Organic Pollutants				
Ingredient name Not listed.	List name	Status		
Rotterdam Convention on Prior Informed Consent (PIC)				
Ingredient name Not listed.	List name	Status		

International lists

National inventory

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Section 15. Regulatory information

REACH Status For the REACH status of this product please consult your company contact, as

identified in Section 1.

Australia inventory (AICS) All components are listed or exempted.

Canada inventory All components are listed or exempted. **China inventory (IECSC)** All components are listed or exempted. **Japan inventory (ENCS)** All components are listed or exempted. Korea inventory (KECI) All components are listed or exempted. All components are listed or exempted.

Philippines inventory

(PICCS)

All components are listed or exempted.

Taiwan Chemical Substances Inventory

(TCSI)

United States inventory

(TSCA 8b)

Not determined.

Section 16. Any other relevant information

History

Date of printing 10/7/2020 Date of issue/Date of 10/7/2020

revision

Date of previous issue 10/18/2017

Version 3

Prepared by Product Stewardship

Key to abbreviations ADG = Australian Dangerous Goods

ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor

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)

NOHSC = National Occupational Health and Safety Commission

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals

Regulation [Regulation (EC) No. 1907/2006]

STEL = Short term exposure limit

SUSMP = Standard Uniform Schedule of Medicine and Poisons

UN = United Nations

TWA = Time weighted average VOC = Volatile Organic Compound

SADT = Self-Accelerating Decomposition Temperature

Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0,

72623-87-1

Procedure used to derive the classification

Classification	Justification
Lact., H362	Calculation method

Indicates information that has changed from previously issued version.

Notice to reader

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Section 16. Any other relevant information

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.

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