

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : IRMCO FLUIDS ® 323-00K
Product code : 323-00K

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : This product is a water-based metalworking lubricant containing additives for corrosion inhibition, metalworking performance, film strength, and fluid preservation. There is no petroleum oil content in this product.

1.4. Supplier's details

FUCHS LUBRICANTS CO.
17050 Lathrop Avenue
Harvey, IL 60426
USA
T 708-333-8900 - F 708-333-9180
sds@fuchs.com - www.fuchs.com/us
Contact: EHS Department

1.5. Emergency phone number

Emergency number : 708-333-8900 (Bus. hrs) | 800-255-3924 (24 hrs)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 2A	H319	Causes serious eye irritation.
Full text of H statements : see section 16		

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation
Precautionary statements (GHS US) : P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves.
P302+P352 - If on skin: Wash with plenty of soap and water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P332+P313 - If skin irritation occurs: Get medical advice.
P337+P313 - If eye irritation persists: Get medical advice.
P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Phosphate Ester, Neutralized*	CAS-No.: Trade Secret	≥10
Triethanolamine	CAS-No.: 102-71-6	10 - 15
2-amino-2-methylpropanol	CAS-No.: 124-68-5	1 – 5

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Allow the victim to rest. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: If skin irritation or rash occurs: Get medical advice/attention. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking. May cause skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Irritation of the gastric/intestinal mucosa. On ingestion, may affect the liver and kidneys.

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

No additional information available

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Intense heat may cause container to burst.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

See Heading 8, Exposure controls and personal protection

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Prolonged or repeated contact with the skin may cause dermatitis. Ensure adequate ventilation. Avoid breathing mist, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Do not freeze. The liquid may freeze if stored outside. Keep container closed when not in use. Store in a well-ventilated place. Keep cool.
Incompatible products : Do not add nitrites or other nitrosating agents. Strong bases. Strong acids. Oxidizing agent.

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SECTION 8 Exposure controls/personal protection

8.1. Control parameters

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USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	0.5 mg/m ³ (total particulate mass) - General Recommended Exposure Limit for Metalworking Fluids (NIOSH, 1998).
Triethanolamine (102-71-6)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Triethanolamine
ACGIH OEL TWA	5 mg/m ³
Remark (ACGIH)	Eye & skin irr
Regulatory reference	ACGIH 2024

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station to maintain airborne concentrations below exposure limits identified in Section 8.1.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:
Wear chemically resistant gloves. Wear protective gloves.
Eye protection:
Chemical goggles or safety glasses. Contact lenses should not be worn
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of inadequate ventilation wear respiratory protection. Wear appropriate mask

Personal protective equipment symbol(s):



Other information:

Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke during use.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: clear.
Color	: Colorless to Amber
Odor	: characteristic

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Odor threshold	: No data available
pH	: 8.38 8.38
Melting point	: No data available
Freezing point	: 0 °C
Boiling point	: 100 °C
Flash point	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: ≈ 1.037
Density	: ≈ 1037 kg/m³
Solubility	: Soluble in water. Water: 100 %
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: ≈ 167 mm²/s
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

VOC content	: Not Applicable
Refractive index	: 1.414

SECTION 10 Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions. No polymerization. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Do not add nitrites or other nitrosating agents. Addition of nitrites may lead to formation of nitrosamines, a substance known to be carcinogenic in laboratory animals.

10.4. Conditions to avoid

Extremely high or low temperatures.

10.5. Incompatible materials

Do not add nitrites or other nitrosating agents. Strong acids. Strong bases. Oxidizing agent.

10.6. Hazardous decomposition products

Under fire conditions, fumes may contain the original material in addition to unidentified toxic and/or irritating compounds. Carbon monoxide. Carbon dioxide. Nitrogen oxides. fume.

SECTION 11 Toxicological information

Likely routes of exposure	: Dermal. Inhalation.
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11.1. Information on toxicological effects

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

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Acute toxicity (inhalation) : Not classified

2-amino-2-methylpropanol (124-68-5)	
LD50 oral rat	2900 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	500 mg/kg body weight

Phosphate Ester, Neutralized

LD50 oral rat	> 2000 mg/kg
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Triethanolamine (102-71-6)

LD50 oral rat	6400 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 day(s))
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Experimental value, Dermal, 14 day(s))
ATE US (oral)	6400 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: 8.38 8.38

2-amino-2-methylpropanol (124-68-5)	
pH	11.3

Phosphate Ester, Neutralized

pH	< 1.5
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Triethanolamine (102-71-6)

pH	11 (25 %)
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Serious eye damage/irritation : Causes serious eye irritation.
pH: 8.38 8.38

2-amino-2-methylpropanol (124-68-5)	
pH	11.3

Phosphate Ester, Neutralized

pH	< 1.5
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Triethanolamine (102-71-6)

pH	11 (25 %)
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Respiratory or skin sensitization : Not classified (The product may be a skin sensitizer. It may also be a skin irritant and repeated contact may increase this effect.)

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Triethanolamine (102-71-6)	
NOAEL (chronic,oral,animal/male,2 years)	63 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies)
IARC group	3 - Not classifiable

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Reproductive toxicity : Not classified

2-amino-2-methylpropanol (124-68-5)	
NOAEL (animal/male, F0/P)	≈ 100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
NOAEL (animal/female, F0/P)	≥ 200 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
NOAEL (animal/male, F1)	≈ 100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
NOAEL (animal/female, F1)	≥ 200 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)

Triethanolamine (102-71-6)	
NOAEL (animal/male, F0/P)	1000 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Guideline: other:, Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
NOAEL (animal/female, F0/P)	300 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study), Guideline: other:, Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Triethanolamine (102-71-6)	
NOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified

IRMCO FLUIDS ® 323-00K	
Viscosity, kinematic	≈ 167 mm²/s
Triethanolamine (102-71-6)	
Viscosity, kinematic	830.2 mm²/s (20 °C, Equivalent or similar to OECD 114)

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
May cause skin irritation.

Symptoms/effects after eye contact : Causes eye irritation.

Symptoms/effects after ingestion : Irritation of the gastric/intestinal mucosa. On ingestion, may affect the liver and kidneys.

SECTION 12 Ecological information

12.1. Ecotoxicity

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

Hazardous to the aquatic environment, long-term (chronic) : Not classified

2-amino-2-methylpropanol (124-68-5)	
LC50 - Fish [1]	190 mg/l Test organisms (species): Lepomis macrochirus

Phosphate Ester, Neutralized	
LC50 - Fish [1]	> 100 mg/l

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Triethanolamine (102-71-6)	
LC50 - Fish [1]	11800 mg/l (APHA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	609.88 mg/l (ASTM E1192, 48 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value, Lethal)
EC50 72h - Algae [1]	512 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	216 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	216 mg/l (DIN 38412-9, 72 h, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC chronic fish	> 1 mg/l Test organisms (species): other:

12.2. Persistence and degradability

IRMC0 FLUIDS ® 323-00K	
Persistence and degradability	Not established.
2-amino-2-methylpropanol (124-68-5)	
Persistence and degradability	Rapidly degradable
Phosphate Ester, Neutralized	
Persistence and degradability	Rapidly degradable
Triethanolamine (102-71-6)	
Persistence and degradability	Biodegradable in the soil, No inhibition of nitrification, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O ₂ /g substance
Chemical oxygen demand (COD)	1.5 g O ₂ /g substance
ThOD	2.04 g O ₂ /g substance

12.3. Bioaccumulative potential

IRMC0 FLUIDS ® 323-00K	
Bioaccumulative potential	Not established.
2-amino-2-methylpropanol (124-68-5)	
Partition coefficient n-octanol/water (Log Pow)	-0.74
Phosphate Ester, Neutralized	
Partition coefficient n-octanol/water (Log Pow)	6.05 Source: Quantitative Structure Activity Relation
Triethanolamine (102-71-6)	
BCF - Fish [1]	0.4 – 3.9 l/kg (Equivalent or similar to OECD 305, 6 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-1.9 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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12.4. Mobility in soil

Triethanolamine (102-71-6)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.06 – 1.27 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No
Other information	: Avoid release to the environment.

SECTION 13 Disposal considerations

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not re-use empty containers without proper cleaning or reconditioning.
Ecological waste information	: Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

UN-No. (DOT)	: Not applicable
UN-No. (TDG)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable

14.3. Transport hazard class(es)

DOT	
Transport hazard class(es) (DOT)	: Not applicable

TDG	
Transport hazard class(es) (TDG)	: Not applicable

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

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

14.4. Packing group

Packing group (DOT)	: Not applicable
Packing group (TDG)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable

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14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not applicable

TDG

Not applicable

IMDG

Not applicable

IATA

Not applicable

SECTION 15 Regulatory information

15.1. Federal regulations

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SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
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Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
2-amino-2-methylpropanol	124-68-5	Not present	-	
Phosphate Ester, Neutralized		Present	Active	XU
Triethanolamine	102-71-6	Present	Active	

15.2. International regulations

CANADA

Phosphate Ester, Neutralized

Listed on the Canadian DSL (Domestic Substances List)

Triethanolamine (102-71-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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All the constituents of this preparation are registered in the EINECS inventory or in the ELINCS list

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2-amino-2-methylpropanol (124-68-5)

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Listed on KECL/KECI (Korean Existing Chemicals Inventory)

Triethanolamine (102-71-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

Component	State or local regulations
Triethanolamine(102-71-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date	: 4/1/2025
Issue date	: 5/20/2019
Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	: None.

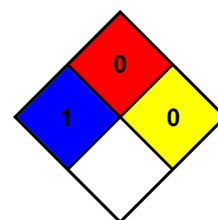
Full text of hazard classes and H-statements

H315	Causes skin irritation
H319	Causes serious eye irritation

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health	: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	: 0 Minimal Hazard - Materials that will not burn
Physical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal protection	: B - Safety glasses, Gloves

Safety Data Sheet (SDS), USA

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