IRMCO FLUIDS ® 146-892

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
SDS Reference Number: 873
Issue date: 6/1/2015 Revision date: 4/1/2025 Supersedes: 3/7/2024 Version: 3.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : IRMCO FLUIDS ® 146-892
Product code : 146-892

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 : Industrial use

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

US Distributor
Fuchs Lubricants Co.
17050 Lathrop Avenue
Harvey, IL 60426
(708) 333-8900
(800) 255-3924 24 hrs Emergency

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 2B	H320	Causes 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
H320 - Causes 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.
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	%
Polyalkylene Glycol*	CAS-No.: Trade Secret	≥10
Triethanolamine	CAS-No.: 102-71-6	10-20
Phosphate Ester, Neutralized*	CAS-No.: Trade Secret	≥ 5
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 : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Obtain medical attention if pain, blinking or redness persists.

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

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after inhalation : May cause respiratory irritation. May cause damaging effects to central nervous system, metabolism and gastrointestinal tract.

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

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

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. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. Avoid contact with skin and eyes. Prolonged or repeated contact with the skin may cause dermatitis. Ensure adequate ventilation. Avoid breathing mist, spray.
Hygiene measures	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

IRMCO FLUIDS ® 146-892	
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	0.5 mg/m³ (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/m³
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. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

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

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.

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
Odor threshold	:	No data available
pH	:	≈ 8.99
Melting point	:	No data available
Freezing point	:	≈ 32 °F
Boiling point	:	≈ 212 °F
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	:	≈ 1.09
Density	:	≈ 9.09 lb/gal
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	:	≈ 167.6 mm²/s @ 40ºC
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

SECTION 10 Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions. No polymerization.

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

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

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.

SECTION 11 Toxicological information

Likely routes of exposure : Dermal. Inhalation.

11.1. Information on toxicological effects

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

Polyalkylene Glycol	
LD50 oral rat	> 2000 mg/kg

Phosphate Ester, Neutralized	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

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: ≈ 8.99

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

Polyalkylene Glycol	
pH	11 – 13

Phosphate Ester, Neutralized	
pH	13.1 – 13.4 Source: lookchem

Triethanolamine (102-71-6)	
pH	11 (25 %)

Serious eye damage/irritation : Causes eye irritation.
pH: ≈ 8.99

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

Polyalkylene Glycol	
pH	11 – 13

Phosphate Ester, Neutralized	
pH	13.1 – 13.4 Source: lookchem

Triethanolamine (102-71-6)	
pH	11 (25 %)

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

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 ® 146-892	
Viscosity, kinematic	≈ 167.6 mm²/s @ 40ºC

Triethanolamine (102-71-6)	
Viscosity, kinematic	830.2 mm²/s (20 °C, Equivalent or similar to OECD 114)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after inhalation : May cause respiratory irritation. May cause damaging effects to central nervous system, metabolism and gastrointestinal tract.

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

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

Polyalkylene Glycol	
LC50 - Fish [1]	> 10000 mg/l

Phosphate Ester, Neutralized	
LC50 - Fish [1]	1227.712 mg/l Source: ECOSAR
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	185.62 mg/l Source: ECOSAR

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

IRMCO FLUIDS ® 146-892	
Persistence and degradability	Not established.

2-amino-2-methylpropanol (124-68-5)	
Persistence and degradability	Rapidly degradable

Polyalkylene Glycol	
Persistence and degradability	Not established.

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

IRMCO FLUIDS ® 146-892	
Bioaccumulative potential	Not established.

2-amino-2-methylpropanol (124-68-5)	
Partition coefficient n-octanol/water (Log Pow)	-0.74

Polyalkylene Glycol	
Bioaccumulative potential	Not established.

Phosphate Ester, Neutralized	
Partition coefficient n-octanol/water (Log Pow)	1.02 Source: EPISUITE

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).

12.4. Mobility in soil

Phosphate Ester, Neutralized	
Mobility in soil	20.84 Source: EPISUITE

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.

Additional information : Non hazardous waste per Resource Conservation and Recovery Act (RCRA).

Ecological waste information : Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Not regulated

Proper Shipping Name (TDG) : Not regulated

Proper Shipping Name (IMDG) : Not regulated

Proper Shipping Name (IATA) : Not regulated

14.3. Transport hazard class(es)

DOT

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

TDG

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

IMDG

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

IATA

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

14.4. Packing group

Packing group (DOT) : Not regulated

Packing group (TDG) : Not regulated

Packing group (IMDG) : Not regulated

Packing group (IATA) : Not regulated

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 regulated

TDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

IRMCO FLUIDS ® 146-892	
Not subject to reporting requirements of the United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
2-amino-2-methylpropanol	CAS-No. 124-68-5	1 – 5%

15.2. International regulations

CANADA

Polyalkylene Glycol
Listed on the Canadian DSL (Domestic Substances List)

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

IRMCO FLUIDS ® 146-892
All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory All the constituents of this preparation are registered in the EINECS inventory or in the ELINCS list

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 : 6/1/2015

Data sources : This material is classified as hazardous under OSHA regulations. This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

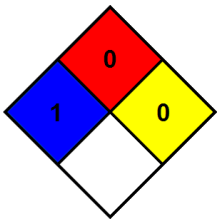
Other information : IRMCO products are mixtures protected as trade secrets according to 29 CFR 1910.1200(i). As per GHS regulation, ingredients that contribute to the classification and exceed cut-off values are listed in section 3. For more information contact IRMCO.

Full text of hazard classes and H-statements	
H315	Causes skin irritation
H320	Causes 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.