

SAFETY DATA SHEET

Issue Date 19-Nov-2025
Revision Number 2.1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name 1.5mol/L Diisobutylaluminium Hydride, Toluene Solution
Other means of identification
Product Code(s) 045-25971

Recommended use of the chemical and restrictions on use

Recommended Use For research use only.
Uses advised against Seek expert judgment when using for purposes other than those recommended.

Details of the supplier of the safety data sheet

Manufacturer Address	Distributor
FUJIFILM Wako Pure Chemical Corporation	FUJIFILM Irvine Scientific
1-2, Doshomachi 3-Chome,	E. Warner Avenue, Santa Ana, CA 92705-5505, U.S.A.: +1 949 261 7800
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Tel : +81-6-6203-3741	
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2. HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Flammable liquids	Category 2
Pyrophoric liquids	Category 1
Substances and mixtures which, in contact with water, emit flammable gases	Category 1
Aspiration hazard	Category 1
Aspiration hazard - (H304)	
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Reproductive Toxicity	Category 1A
Specific target organ toxicity (single exposure)	Category 1, Category 3
Category 1 central nervous system	
Category 3 Respiratory irritation, Narcotic effects	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 central nervous system, kidneys	
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 3

Pictograms



Signal word

Danger

Hazard statements

- H225 - Highly flammable liquid and vapor
- H250 - Catches fire spontaneously if exposed to air
- H260 - In contact with water releases flammable gases which may ignite spontaneously
- H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage
 H360 - May damage fertility or the unborn child
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H304 - May be fatal if swallowed and enters airways
 H401 - Toxic to aquatic life
 H412 - Harmful to aquatic life with long lasting effects
 H370 - Causes damage to the following organs: central nervous system
 H372 - Causes damage to the following organs through prolonged or repeated exposure: central nervous system, kidneys

Precautionary statements-(Prevention)

Keep away from any possible contact with water, because of violent reaction and possible flash fire Protect from moisture Handle under inert gas Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Do not breathe dust/fume/gas/mist/vapors/spray Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area Avoid release to the environment Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Keep container tightly closed Ground/bond container and receiving equipment Use explosion-proof electrical/ ventilating / lighting / equipment Use only non-sparking tools Take precautionary measures against static discharge Do not allow contact with air Handle under inert gas. Protect from moisture Keep cool

Precautionary statements-(Response)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician
 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages Wash contaminated clothing before reuse
 IF ON SKIN: Immerse in cool water/wrap in wet bandages
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do NOT induce vomiting Rinse mouth

Precautionary statements-(Storage)

Store locked up Store in a well-ventilated place. Keep container tightly closed Store in a dry place

Precautionary statements-(Disposal)

Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Mixture

Chemical Name	Molecular weight	CAS RN	Weight-%
Toluene	92.14	108-88-3	75
Diisobutylaluminium hydride	142.22	1191-15-7	25

Impurities and/or Additives: Not applicable

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media

Extinguishing powder. DRY sand.

Unsuitable Extinguishing media Do not use straight streams.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical none.

Impact

Sensitivity to Static Discharge none.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use with local exhaust ventilation. Could result in a harmful gas by contact with water. Avoid contact with water

Protective measures Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage conditions Keep container protect from light tightly closed. Store in a cool (2-10 °C) place. Packed with an inert gas.

Packaging materials Glass.

Incompatible materials Strong oxidizing agents. Water.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Not applicable

Chemical Name	ACGIH	OSHA PEL	NIOSH IDLH
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³
Diisobutylaluminium hydride 1191-15-7	N/A	(vacated) TWA: 2 mg/m ³ Al Aluminum	TWA: 2 mg/m ³ Al

Personal protective equipment

Respiratory protection gas mask for organic gas (JIS T 8152)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Color colorless
Turbidity clear ~ slightly muddy
Appearance liquid

Odor

characteristic odor

pH

no data available

Melting point/freezing point

-95 °C

Boiling point, initial boiling point and boiling range

110.6 °C

Flash point

4 °C

Evaporation rate:

no data available

Flammability (solid, gas):

no data available

Upper/lower flammability or explosive limits

Upper: 7.1vol%

Lower: 1.2vol%

Vapour pressure

no data available

Vapour density

3.1

Specific Gravity / Relative density

0.798

Solubilities

hexane and benzene Miscible at any arbitrary ratio . water and Ethanol : decomposes.

n-Octanol/water partition coefficient:(log Pow)

2.69

Auto-ignition temperature:

no data available

Decomposition temperature:

no data available

Viscosity (coefficient of viscosity)

no data available

Dynamic viscosity

no data available

Particle characteristics

no data available

10. STABILITY AND REACTIVITY

Stability

Chemical stability May be altered by light.
Reactivity no data available

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark, Moisture

Incompatible materials

Strong oxidizing agents, Water

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂), Metal oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Toluene	5000 mg/kg (Rat)	12000 mg/kg (Rat)	7460 ppm (Rat) 4 h (vapor)

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Toluene	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Toluene	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Toluene	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Toluene	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Toluene	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Toluene	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Toluene	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH
Toluene 108-88-3	N/A	Group 3	N/A	N/A

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Toluene	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Toluene	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
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Toluene	Based on the NITE GHS classification results.
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Aspiration hazard

Chemical Name	Aspiration Hazard source information
Toluene	Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Toluene 108-88-3	EC50 : Pseudokirchneriella subcapitata 433 mg/L 96 h	LC50 : Pimephales promelas 15.22 - 19.05 mg/L 96 h	N/A	EC50 : Ceriodaphnia dubia 3.78 mg/L 48 h

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility

no data available

Chemical Name	Partition coefficient
Toluene 108-88-3	2.73

Mobility in soil

No information available

Other Data

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Precautionary including method of disposing contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT

UN/ID No	UN3394
Proper shipping name:	Organometallic substance, liquid, pyrophoric, water-reactive (Diisobutylaluminium Hydride, Toluene Solution)
UN classification	4.2
Subsidiary hazard class	4.3
Packing group	I
Marine pollutant	Not applicable

IATA

UN/ID No	UN3394
Proper shipping name:	Organometallic substance, liquid, pyrophoric, water-reactive (Diisobutylaluminium Hydride, Toluene Solution)
UN classification	4.2
Subsidiary hazard class	4.3
Packing group	

Environmentally Hazardous Substance Not applicable

IMDG

UN/ID No UN3394
Proper shipping name: Organometallic substance, liquid, pyrophoric, water-reactive (Diisobutylaluminium Hydride, Toluene Solution)
UN classification 4.2
Subsidiary hazard class 4.3
Packing group I
Marine pollutant (Sea) Not applicable

15. REGULATORY INFORMATION

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
Toluene - 108-88-3	108-88-3	75	1.0
Diisobutylaluminium hydride - 1191-15-7	1191-15-7	25	N/A

SARA 311/312 Hazard Categories

Acute health hazard No
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Toluene 108-88-3	1000 lb	N/A	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any chemicals regulated by Proposition 65

Chemical Name	California Proposition 65
Toluene - 108-88-3	Developmental

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Toluene 108-88-3	X	X	X
Diisobutylaluminium hydride	X	X	X

1191-15-7			
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U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION**Issue Date** 19-Nov-2025**Revision Note**

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet