

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
Product Identifier

Perihalan Produk: **IL21395A IND & PDAS Positive Control**

Product Description: **IL21395A IND & PDAS Positive Control**
Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company Thermo Scientific Microbiology Sdn Bhd
No.6, Jalan TTC 6, Taman Teknologi Cheng,
Cheng, 75250 Melaka, Malaysia
+606 334 0975 .

Supplier Remel
12076 Santa Fe Drive Lenexa,
KS 66215 United States
Telephone: 1-800-255-6730
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E-mail address mbd-sds@thermofisher.com

Emergency Telephone Number

(603) 5122 8888
CHEMTREC Malaysia **1-800-815-308** (Malay)
CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

SECTION 2: HAZARDS IDENTIFICATION
Classification of the substance or mixture

| | |
|-----------------------------------|-------------------|
| Flammable liquids | Category 2 (H225) |
| Serious Eye Damage/Eye Irritation | Category 2 (H319) |

Label Elements

Signal Word
Danger
Hazard Statements

H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation

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Precautionary Statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear eye protection/ face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Hazards

This product does not contain any known or suspected endocrine disruptors
Toxic to terrestrial vertebrates

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|-----------------------------------|----------|----------|
| Ethyl alcohol | 64-17-5 | 99.9998 |
| Indole-3-pyruvic acid monohydrate | 392-12-1 | 0.0007 |
| Indole | 120-72-9 | 0.0003 |

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

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Suitable Extinguishing Media

Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

None under normal use conditions.

Advice for fire-fighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods and Material for Containment and Cleaning Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Conditions for Safe Storage, Including any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

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| Component | Malaysia | ACGIH TLV | OSHA PEL |
|---------------|----------|----------------|------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | | STEL: 1000 ppm | (Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m ³ TWA: 1000 ppm TWA: 1900 mg/m ³ |

| Component | European Union | The United Kingdom | Germany |
|---------------|----------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Ethyl alcohol | | TWA: 1000 ppm TWA: 1920 mg/m ³ TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m ³ STEL | 200 ppm TWA MAK; 380 mg/m ³ TWA MAK |

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Recommended Filter type:

Organic gases and vapours filter Type A Brown conforming to EN14387

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

Prevent product from entering drains Do not allow material to contaminate ground water system

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Physical State

Liquid

Odor

No information available

Odor Threshold

No data available

pH

No information available

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| | | |
|---------------------|-------------------|-----------------------------------|
| Melting Point/Range | No data available | |
| Softening Point | No data available | |
| Boiling Point/Range | 78 °C / 172.4 °F | |
| Flash Point | -12 °C / 10.4 °F | Method - No information available |

| | | |
|--------------------------|-------------------|--------|
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | No data available | |

| | | |
|------------------------------|--------------------------|-------------|
| Vapor Pressure | No data available | |
| Vapor Density | No data available | (Air = 1.0) |
| Specific Gravity / Density | No data available | |
| Bulk Density | Not applicable | Liquid |
| Water Solubility | Miscible | |
| Solubility in other solvents | No information available | |

Partition Coefficient (n-octanol/water)

| Component | log Pow |
|---------------|---------|
| Ethyl alcohol | -0.32 |
| Indole | 2.14 |

| | | |
|---------------------------|--------------------------|---------------------------------------------|
| Autoignition Temperature | No data available | |
| Decomposition Temperature | No data available | |
| Viscosity | No data available | |
| Explosive Properties | | Vapors may form explosive mixtures with air |
| Oxidizing Properties | No information available | |

| | |
|----------------|------------------|
| VOC Content(%) | 99.9998016357422 |
|----------------|------------------|

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

| | |
|--------------------------|-------------------------------|
| Hazardous Polymerization | No information available. |
| Hazardous Reactions | None under normal processing. |

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials

None known.

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Hazardous Decomposition Products

None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|---------------------------|-----------------------------|-----------------------|
| Ethyl alcohol | LD50 = 7060 mg/kg (Rat) | | 20000 ppm/10H (Rat) |
| Indole | LD50 = 1 g/kg (Rat) | LD50 = 790 mg/kg (Rabbit) | |

Chronic Toxicity

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen
This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Sensitization

No information available

Mutagenic Effects

No information available

Reproductive Effects

No information available

Developmental Effects

No information available

Target Organs

None known.

Symptoms

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---------------|------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol | Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h | EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h | EC50 (72h) = 275 mg/l (Chlorella vulgaris) | Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min |
| Indole | Onchorhynchus mykiss: LC50=10 mg/L 24h | 1 mg/L 48h | | |

Persistence and degradability

Persistence

Persistence is unlikely, based on information available.

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Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative potential

Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---------------|---------|-------------------------------|
| Ethyl alcohol | -0.32 | No data available |
| Indole | 2.14 | No data available |

Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.

Other adverse effects

No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products

Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

Other Information

Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Can be landfilled or incinerated, when in compliance with local regulations

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN-No UN1170
Hazard Class 3
Packing Group II
Proper Shipping Name ETHANOL

Road and Rail Transport

UN-No UN1170
Hazard Class 3
Packing Group II
Proper Shipping Name ETHANOL

IATA

UN-No UN1170
Hazard Class 3
Packing Group II
Proper Shipping Name ETHANOL

Special Precautions for User

No special precautions required

SECTION 15: REGULATORY INFORMATION

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

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International Inventories

X = listed U.S.A. (TSCA) Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) Korea (KECL) China (IECSC) Japan (ENCS) Philippines (PICCS) Taiwan (TCSI) Japan (ISHL) New Zealand (NZIoC) Japan (ISHL)

| Component | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL |
|-----------------------------------|-----------|------|-----|-------|------|------|-------|------|----------|
| Ethyl alcohol | 200-578-6 | X | X | X | X | X | X | X | KE-13217 |
| Indole-3-pyruvic acid monohydrate | 206-874-1 | - | - | - | - | X | - | - | - |
| Indole | 204-420-7 | X | X | X | X | X | X | X | KE-21007 |

| Component | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Ethyl alcohol | | | | Annex I - Y42 |

National Regulations

Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Revision Date

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Revision Summary

SDS sections updated.

In accordance with local and national regulations: Occupational Safety and Health

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(Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Disclaimer

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End of Safety Data Sheet