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Safety Data Sheet

Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:
Product name: Manganese 2-ethylhexanoate
SDS No. : 4730E-4
Relevant identified uses of the substance or mixture and uses advised against
Research and Development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607

Section 2. Hazards identification

GHS classification and label elements of the product
Classification of the substance or mixture
PHYSICAL AND CHEMICAL HAZARDS
Flammable liquids: Category 3
HEALTH HAZARDS
Skin corrosion/irritation: Category 1
Serious eye damage/eye irritation: Category 2
Carcinogenicity: Category 1B
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)
Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)
Specific target organ toxicity - repeated exposure: Category 2 (testis, liver, central nervous system, respiratory system)
ENVIRONMENT HAZARDS
Hazardous to the aquatic environment, short-term (acute): Category 1
Hazardous to the aquatic environment, long-term (chronic): Category 1
(Note) GHS classification without description: Not classified/Classification not possible
Label elements

Signal word: Danger
HAZARD STATEMENT
H226 Flammable liquid and vapor
H314 Causes severe skin burns and eye damage
H350 May cause cancer
H360 May damage fertility or the unborn child
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H373 May cause damage to organs through prolonged or repeated exposure (testis, liver,

central nervous system, respiratory system)
H410 Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash contaminated parts thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P370 + P378 In case of fire: Use appropriate media to extinguish.
P391 Collect spillage.
P314 Get medical advice/attention if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P310 Immediately call a POISON CENTER/doctor/physician.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P363 Wash contaminated clothing before reuse.
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.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Manganese 2-ethylhexanoate	50	13434-24-7	2-615	C16H30MnO4
Mineral spirit	30-40	8052-41-3	-	-

Note : The figures shown above are not the specifications of the product.

Impurities

2-Ethylhexanoic acid <10% (CAS No.149-57-5)
Trimethyl benzene ≦3.3% (CAS No.25551-13-7)
n-Nonane ≦2.8% (CAS No.111-84-2)
o-,m-,p-Xylene ≦0.42% (CAS No.1330-20-7)
Diethylene glycol monomethyl ether <5.0% (CAS No.111-77-3)
Cumene ≦0.12% (CAS No.98-82-8)

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or shower.
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

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.

IF SWALLOWED

Rinse mouth.
Do NOT induce vomiting.
Call a POISON CENTER/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.
*Fire Service Act Group 4 Hazardous Materials

Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System
Sprinkler System
Dry Chemical Extinguishing System-Others (except for phosphates etc., Hydrogen Carbonates

etc.)
Fire Extinguisher Discharging Jet Water/Spraying Water
Fire Extinguisher Discharging Jet Loaded Liquid
Fire Extinguisher Discharging Dry Extinguishing agents-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Water Bucket or Water Tank
*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.

(Exhaust/ventilator)

Exhaust/ventilator should be available.
(Safety treatments)
Avoid contact with skin.
Avoid contact with eyes.
Safety Measures
Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands et al thoroughly after handling.
When using do not eat, drink or smoke.
Any incompatibilities
See "10.Stability and Reactivity".
Advice on general occupational hygiene
Wash contaminated parts thoroughly after handling.
Wash contaminated clothing before reuse.
Storage
Conditions for safe storage
Keep container tightly closed.
Store locked up. (P405)
Store in a cool, dry place. Do not store in direct sunlight.
Storage in accordance with local/national regulation.
Container and packaging materials for safe handling
Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters
Control value and Concentration standard value
(Manganese 2-ethylhexanoate)
Japan control value 0.05mg-Mn/m3
(2-Ethylhexanoic acid)
Concentration standard value TWA: 5mg/m3
(o-,m-,p-Xylene)
Japan control value 50ppm
(Cumene)
Concentration standard value TWA: 10ppm
Adopted value
(n-Nonane)
JSOH(1989) 200ppm; 1050mg/m3
(o-,m-,p-Xylene)
JSOH(2001) 50ppm; 217mg/m3
(Cumene)
JSOH(2019) 10ppm; 50mg/m3 (skin)
(Mineral spirit)
ACGIH(1987) TWA: 100ppm (Eye, skin & kidney dam; nausea; CNS impair)
(2-Ethylhexanoic acid)
ACGIH(2007) TWA: 5mg/m3(IFV) (Teratogenic eff)
(Trimethyl benzene)
ACGIH(2021) TWA: 10ppm (CNS impair; hematologic eff)
(n-Nonane)

ACGIH(2012) TWA: 200ppm (CNS impair)
(o-,m-,p-Xylene)
ACGIH(2021) TWA: 20ppm (Eye & URT irr; hematologic eff; ototoxicity; CNS impair)
(Cumene)
ACGIH(2021) TWA: 5ppm (URT adenoma; neurological eff)
[ACGIH] Notation
(o-,m-,p-Xylene)
OTO

Exposure controls
Appropriate engineering controls
Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.
Individual protection measures
Recommend to use protective equipment in conformity with the standards.
Use appropriate protective equipment in accordance with local/national regulation.
Respiratory protection
Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.
Hand protection
Wear impervious protective glove.
Eye protection
Wear eye/face protection. Wear safety goggles in cases gas is generated.
Skin and body protection
Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties
Physical state: Liquid
Color: Dark brown
Odor: Characteristic odor
Melting point/Freezing point data is not available.
Boiling point or initial boiling point data is not available.
Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Flash point: 46.4℃
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity: 741mm2/s(25℃)
Solubility:
Solubility in water: Insoluble
Solubility in solvent data is not available.
n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 0.95
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(Mineral spirit)

Reacts with strong oxidants. This generates fire and explosion hazard. Attacks some forms of plastic, rubber and coatings.(ICSC 0361)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[NITE-CHRIP]

(Mineral spirit)

rat : Mortality was not acknowledged at 5000 mg/kg. (source: NITE)

(2-Ethylhexanoic acid)

rat LD50: 2043 mg/kg (source: NITE)

(Trimethyl benzene)

rat LD50: 8970 mg/kg (source: NITE)

(o-,m-,p-Xylene)

rat LD50: 3500 - 8800 mg/kg (source: NITE)

(Diethylene glycol monomethyl ether)

rat LD50: > 5500 mg/kg (source: NITE)

(Cumene)

rat LD50: 2700 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIP]

(2-Ethylhexanoic acid)

rabbit LD50: 1140 mg/kg (source: NITE)

(o-,m-,p-Xylene)

rabbit LD50: 1700 mg/kg (source: NITE)

(Diethylene glycol monomethyl ether)

rabbit LD50: 6540 - 20400 mg/kg (source: NITE)

(Cumene)

rabbit LD50: > 3160 mg/kg (source: NITE)
Acute toxicity (Inhalation)
[Data for components of the product]
[NITE-CHRIP]
(n-Nonane)
vapor: rat LC50: 3200 ppm (4-hour) (source: NITE)
mist: rat LC50: 23.4 mg/L (8-hour) (converted 4-hour equivalent value: 46.8 mg/L) (source: NITE)
(o-,m-,p-Xylene)
vapor: rat LC50: 6350 - 6700 ppm (4-hour) (source: NITE)
(Diethylene glycol monomethyl ether)
mist: rat LC50: > 200 mg/L (1-hour) (converted 4-hour equivalent value: 50 mg/L) (source: NITE)
(Cumene)
vapor: mouse LC50: 2000 ppm (7-hour) (converted 4-hour equivalent value: 2645 ppm) (source: NITE)
mist: rat LC50: 39.3 mg/L (4-hour) (source: NITE)

Irritant properties
Skin corrosion/irritation
[Product]
Category 1, Causes severe skin burns and eye damage
[Data for components of the product]
[NITE-CHRIP]
(Mineral spirit)
Category 2 (source: NITE)
(2-Ethylhexanoic acid)
Category 1 (source: NITE)
(Trimethyl benzene)
Category 2 (source: NITE)
(n-Nonane)
Category 2 (source: NITE)
(o-,m-,p-Xylene)
Category 2 (source: NITE)
Serious eye damage/irritation
[Data for components of the product]
[NITE-CHRIP]
(2-Ethylhexanoic acid)
Category 2 (source: NITE)
(Trimethyl benzene)
Category 2B (source: NITE)
(n-Nonane)
Category 2B (source: NITE)
(o-,m-,p-Xylene)
Category 2 (source: NITE)
(Cumene)
Category 2B (source: NITE)

Allergenic and sensitizing effects data is not available.
Mutagenic effects data is not available.
Carcinogenicity
[Product]

Category 1B, May cause cancer
[Data for components of the product]
[NITE-CHRIP]
(Cumene)
Category 1B (source: NITE)
[IARC]
(o-,m-,p-Xylene)
Group 3 : Not classifiable as to its carcinogenicity to humans
(Cumene)
Group 2B : Possibly carcinogenic to humans
[ACGIH]
(o-,m-,p-Xylene)
A4(2021) : Not Classifiable as a Human Carcinogen
(Cumene)
A3(2021) : Confirmed Animal Carcinogen with Unknown Relevance to Humans
[NTP]
(Cumene)
RAHC : Reasonably Anticipated to be Human Carcinogens
[EU]
(Mineral spirit)
Category 1B; Substances presumed to have carcinogenic potential for humans
(Cumene)
Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity
[Product]
Category 1B, May damage fertility or the unborn child
[Data for components of the product]
[NITE-CHRIP]
(2-Ethylhexanoic acid)
Category 1B (source: NITE)
(o-,m-,p-Xylene)
Category 1B (source: NITE)
(Diethylene glycol monomethyl ether)
Category 1B (source: NITE)

Specific target organ toxicity (STOT)
STOT-single exposure
[Product]
Category 3, May cause respiratory irritation
Category 3, May cause drowsiness or dizziness
[Data for components of the product]
[NITE-CHRIP]
(Mineral spirit)
Category 3 (Respiratory tract irritation), Category 3 (Narcotic effects) (source: NITE)
(2-Ethylhexanoic acid)
Category 2 (respiratory system) (source: NITE)
(Trimethyl benzene)
Category 3 (Respiratory tract irritation), Category 3 (Narcotic effects) (source: NITE)
(n-Nonane)
Category 2 (central nervous system), Category 3 (Respiratory tract irritation), Category 3 (Narcotic effects) (source: NITE)

(o-,m-,p-Xylene)
Category 3 (Narcotic effects) (source: NITE)
(Diethylene glycol monomethyl ether)
Category 3 (Narcotic effects) (source: NITE)
(Cumene)
Category 3 (Respiratory tract irritation), Category 3 (Narcotic effects) (source: NITE)

STOT-repeated exposure
[Product]
Category 2, May cause damage to organs through prolonged or repeated exposure
[Data for components of the product]
[NITE-CHRIP]
(Mineral spirit)
Category 2 (testis, liver) (source: NITE)
(Trimethyl benzene)
Category 1 (central nervous system, respiratory system) (source: NITE)

Aspiration hazard
[Data for components of the product]
[NITE-CHRIP]
(Mineral spirit)
Category 1 (source: NITE)
(Trimethyl benzene)
Category 1 (source: NITE)
(n-Nonane)
Category 1 (source: NITE)
(o-,m-,p-Xylene)
Category 1 (source: NITE)
(Cumene)
Category 1 (source: NITE)

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Product]
Category 1, Very toxic to aquatic life
Category 1, Very toxic to aquatic life with long lasting effects
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[NITE-CHRIP]
(Mineral spirit)
Crustacea (Daphnia magna) 48-hour LC50: 0.42 - 2.3 mg/L (source: NITE)
(2-Ethylhexanoic acid)
Crustacea (Daphnia magna) 48-hour EC50: 85.4 mg/L (source: NITE)
(Trimethyl benzene)
Crustacea (Glass Shrimp) 96-hour LC50: 5400 μg/L (source: NITE)
(n-Nonane)
Crustacea (Daphnia magna) 48-hour EC50: 0.2 mg/L (source: NITE)
(o-,m-,p-Xylene)
Fish (Oncorhynchus mykiss) 96-hour LC50: 3.3 mg/L (source: NITE)
Crustacea (Palaemonetes pugio) 96-hour LC50: 7.4 mg/L (source: NITE)

(Diethylene glycol monomethyl ether)
Algae (Raphidocelis subcapitata) 96-hour EC50: > 1000 mg/L (source: NITE)
Crustacea (Daphnia magna) 48-hour EC50: > 500 mg/L (source: NITE)
Fish (Pimephales promelas) 96-hour LC50: 5700 mg/L (source: NITE)
(Cumene)
Crustacea (Mysidopsis bahia) 96-hour LC50: 1.2 mg/L (source: NITE)
Fish (Oncorhynchus mykiss) 96-hour LC50: 2.7 mg/L (source: NITE)
Hazardous to the aquatic environment, long-term (chronic)
[NITE-CHRIP]
(o-,m-,p-Xylene)
Fish (Oncorhynchus mykiss) NOEC: >= 1.3 mg/L (source: NITE)
(Cumene)
Algae (Desmodesmus subspicatus) 72-hour NOEC: 0.22 mg/L (source: NITE)
Crustacea (Daphnia magna) 21-day NOEC: 0.35 mg/L (source: NITE)

Water solubility
(Mineral spirit)
none (source: ICSC, 2004)
(2-Ethylhexanoic acid)
0.14 g/100 mL (source: ICSC, 2005)
(Trimethyl benzene)
very poor (source: ICSC, 2002)
(n-Nonane)
0.00002 g/100 mL (25℃) (source: ICSC, 2011)
(Diethylene glycol monomethyl ether)
not poorly water-soluble (1000000 mg/L) (source: NITE)
(Cumene)
very poor (0.02 g/100 mL , 20℃) (source: ICSC, 2014)

Persistence and degradability
[Data for components of the product]
(Mineral spirit)
Not rapidly degradable (Degradation rate: 12 - 13% (by BOD)) (source: NITE)
(Trimethyl benzene)
Not rapidly degradable (Degradation rate: 0% (by BOD)) (source: NITE)
(n-Nonane)
Rapidly degradable (Degradation rate: 96% (by BOD)) (source: NITE)
(o-,m-,p-Xylene)
Not rapidly degradable (Degradation rate: 39% (by BOD)) (source: NITE)
(Cumene)
Not rapidly degradable (Degradation rate: 13%) (84/449/EEC) (source: NITE)

Bioaccumulative potential
[Data for components of the product]
(Mineral spirit)
log Pow: 3.16 - 7.06 (source: ICSC, 2004)
(2-Ethylhexanoic acid)
log Pow: 2.64 (source: NITE)
(Trimethyl benzene)
log Pow: 3.4 - 3.8 (source: ICSC, 2002)
BCF: 328 (test substance: 1,3,5-Trimethybenzene) (source: NITE)
(n-Nonane)
log Pow: 5.65 (source: ICSC, 2011)

(o-,m-,p-Xylene)
log Pow: 3.16 (source: NITE)
(Diethylene glycol monomethyl ether)
log Pow: -1.14/-0.93 (calculated value) (source: ICSC, 2004)
(Cumene)
log Pow: 3.66 (source: NITE)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.
Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : 2920
UN Proper Shipping Name :
CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Class or division (Transport hazard class) : 8
Subsidiary hazard(s) : 3
Packing group : I
ERG GUIDE No.: 132

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 2920
UN Proper Shipping Name :
CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Class or division (Transport hazard class) : 8
Subsidiary hazard(s) : 3
Packing group : I

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 2920
UN Proper Shipping Name :
CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Class or division (Transport hazard class) : 8
Subsidiary hazard(s) : 3
Hazard labels : Corrosive & Flamm.liquid
Packing group : I

Environmental hazards

Marine pollutants (yes/no) : yes

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Cumene; Diethylene glycol monomethyl ether; n-Nonane; 2-Ethylhexanoic acid; o-,m-,p-Xylene; Mineral spirit; Manganese 2-ethylhexanoate; Trimethyl benzene

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)
IATA Dangerous Goods Regulations (65th Edition) 2024
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2024 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2023 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.
The GHS classification data given here is based on current Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).