

Material Safety Data Sheet

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1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

- GHS product identifier : DOA (Dioctyl Adipate)
- Recommended use of the chemical and restrictions on use
 - Recommended use : Cold resistant, light-resistant, heat-resistant plaster
 - Restrictions on use : No data
- Supplier's details
 - Manufacturer : AEKYUNG PETROCHEMICAL CO., LTD.
 - Address : 81, Sanggae-ro, Nam-gu, Ulsan Metropolitan city (Sanggae-dong), Korea
 - Telephone number : 82-52-259-8491

2. HAZARD IDENTIFICATION

- Classification of the substance
 - Toxic to reproduction : Category 2
- GHS label elements, including precautionary statements
 - Symbol

 - Signal word: Warning
 - Hazard statements
 - H361 Suspected of damaging fertility or the unborn child
- Precautionary statements
 - Prevention
 - P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.

- ☐ Response
P308+P313 If exposed or concerned : Get medical advice/attention.
- ☐ Storage
P405 Store locked up.
- ☐ Disposal
P501 Dispose of contents/container to in accordance with international regulation.
- ☒ Other hazards with do not result in classification
 - ☐ NFPA
 - Health 0
 - Fire 1
 - Reactivity 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

- ☒ Component : Dioctyl Adipate (DOA)
- ☒ Trade Names/Synonyms
 - ☐ Adipic acid, Bis(2-ethylhexyl) ester.
 - ☐ Bis(2-ethylhexyl) Adipate.
- ☒ CAS Number : 103-23-1
- ☒ Percentage : 100%

4. FIRST AID MEASURES

- ☒ Eye Contact
 - ☐ Wash eyes immediately with large amount of water, occasionally lifting upper and lower lids, until no evidence of chemical remains(at least 15-20 minutes).
 - ☐ Get medical attention immediately.
- ☒ Skin Contact
 - ☐ Wash with soap or mild detergent and large amount of water until no evidence of chemical remains(at least 15-20 minutes).
 - ☐ Get medical attention immediately.
 - ☐ Wash contaminated clothing before reuse.
 - ☐ Remove/Take off immediately all contaminated clothing and shoes.

- Inhalation
 - Remove from exposure area to fresh air immediately.
 - Get medical attention immediately.
 - If not breathing, give artificial respiration.
- Ingestion
 - If unconscious, do not feed anything.
 - Wash the mouth by water.
- Indication of immediate medical attention and special treatment
 - No data.

5. FIRE FIGHTING MEASURES

- Suitable(and unsuitable) extinguishing media
 - Suitable extinguishing media : Dry chemical, carbon dioxide, water, regular foam.
 - Unsuitable extinguishing media : No data.
 - Large Fires : Use regular foam or flood with fine water spray.
- Specific hazards arising from the chemical
 - Thermal decomposition products : Oxides of carbon.
- Fire and Explosion Hazards
 - Slightly fire hazard.
- Special protective equipment and precautions for fire fighters
 - Move container from fire area if it can be done without risk.
 - Dike fire-control water for later disposal.
 - Use agents suitable for type of surrounding fire.
 - Avoid breathing hazardous vapors, keep upwind.
 - Water or foam may cause frothing.
 - Scatter spilled material with high-pressure water streams.
 - Stay upwind and keep out of low areas.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions
 - Stop leak if you can do it without risk.
- Environment precautions
 - Air : No data.
 - Soil : No data.
 - Water : No data.
- Methods and materials for containment and cleaning up
 - Small spill
 - 1) Absorb with sand or other non-combustible material.
 - 2) Collect spilled material in appropriate container for disposal.
 - 3) Keep unnecessary people away, isolate hazard area and deny entry.
 - Large spill : No data

7. HANDLING AND STORAGE

- Precautions for safe handling
 - Do not touch spilled material.
 - Remove contaminated clothing and shoes and wash contaminated clothing before reuse.
 - Avoid inhalation of vapour or mist.
 - Wash contaminated clothing before reuse.
- Conditions for safe storage
 - Store away from incompatible substances.
 - Store in a tightly closed container.
 - Store in a cool, dry and well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Occupational exposure limits
 - Internally an occupational exposure limit : No data.
- Appropriate engineering controls : No data.

- Personal protective equipment
 - Respiratory protection
 - 1) Following the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
 - Eye protection
 - 1) Wear splash resistant safety goggles.
 - 2) Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
 - Hand protection
 - 1) Wear appropriate chemical resistant gloves.
 - Body protection
 - 1) Wear appropriate chemical resistant clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Description : Colorless, oily liquid.
- Odor : Very slightly odor.
- Odor threshold : No data.
- pH : No data.
- Melting point/freezing point : -68°C (-90°F)
- Initial boiling point and boiling range : 417°C (0.67kpa)
- Flash point : 196°C
- Evaporation rate : Not Applicable.
- Flammability : No data.
- Upper/lower flammability or explosive limits : - / 0.38%
- Vapor pressure : 0.225mmHg(20°C)
- Water solubility : 0g/100ml(22°C)
- Vapor density (Air=1) : 12.1
- Specific gravity (water=1) : 0.920
- Partition coefficient(n-octanol/water) : 6.114
- Auto-ignition temperature : 395°C
- Decomposition temperature : No data.
- Viscosity : 13.7 CpS(20°C)
- Molecular weight : 370.64

10. STABILITY AND REACTIVITY

- Chemical stability
 - Stable at normal temperatures and pressure.
- Possibility of hazardous reactions
 - Will not polymerize.
- Conditions to avoid
 - Avoid heat, flames, sparks and other sources of ignition.
 - Avoid incompatible substances.
- Incompatible materials
 - Acids, bases, oxidizing materials.
- Hazardous decomposition products
 - Thermal decomposition products : Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

- Information on the likely routes of exposure
 - Inhalation : No data.
 - Ingestion : May cause diarrhea.
 - Skin Contact : May cause irritation.
 - Eye Contact : May cause available.
- Information on health hazards
 - Acute toxicity
 - 1) Oral : LD50 9,100mg/Kg(rat)
 - 2) Dermal : LD50 14,752mg/Kg(rabbit)
 - 3) Inhalation : No data.
 - Skin corrosion/irritation : Non irritation (rabbit)
 - Serious eye damage/eye irritation : Non irritation (rabbit)
 - Sensitization-Respiration : No data.
 - Sensitization-Skin : No sensitization.
 - Carcinogenicity : IARC Group 3
 - Germ cell mutagenicity : No data.
 - Toxic to reproduction : Category 2.
 - Specific target organ toxicity(single exposure) : No data.

- ☐ Specific target organ toxicity(repeated exposure) : No data.
- ☐ Aspiration hazard : No data.

12. ECOLOGICAL INFORMATION

- Aquatic/terrestrial ecological toxicity
 - ☐ Fishes : LC50 0.78mg/ ℓ , 96hr
 - ☐ Algae : No data.
 - ☐ Crustacea : No data.
- Persistence/degradability
 - ☐ Persistence : No data.
 - ☐ Degradability : No data.
- Bioaccumulative potential
 - ☐ Biodegradability : 71%
 - ☐ Accumulation : BCF 27(Lepomis macrochirus(fish fresh water), 0.25mg/ ℓ)
- Soil mobility : No data.
- Other adverse effects : No data.

13. DISPOSAL CONSIDERATIONS

- Disposal methods
 - ☐ Dispose in accordance with all applicable regulations.
- Disposal considerations
 - ☐ Dispose according to the waste treatment standards.

14. TRANSPORT INFORMATION

- UN NUMBER (IMDG) : Not applicable.
- UN Proper shipping name : Not applicable.
- Transport hazard class : Not applicable.
- IMDG Packing Group : Not applicable.
- Environmental hazards : Not applicable.
- Special precautions
 - ☐ In case of fire : Not applicable.
 - ☐ In case of leakage : Not applicable.

15. REGULATORY INFORMATION

- US Federal
 - OSHA Process Safety (29CFR1910.119) : Not Regulated.
 - CERCLA Section 103 (40CFR302.4) : Not Regulated.
 - EPCAR Section 302 (40CFR355.30) : Not Regulated.
 - EPCAR Section 304 (40CFR355.40) : Not Regulated.
 - EPCAR Section 313 (40CFR372.65) : Not Regulated.

16. OTHER INFORMATION

- Reference and source
 - TOXNET.U.S.National Library of Medicine
 - Akron ; ICSC ; ECB-ESIS
 - ECOTOX Database,EPA
 - IUCLID Chemical Data Sheet, EC-ECB
 - ECHA
 - KOSHA MSDS
- Date of previous issue : July 21, 2003.
- Revision number and latest revision date : Rev.1, December 10. 2012.
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