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Safety Data Sheet

1. Product and Company Identification

Product name :Super Remover No.2

Name of supplier :SOLAR CO., LTD.

Address :1-7, Nunobiki-cho-2-chome, Chuo-ku, Kobe, Hyogo-Pref. 651-0097 JAPAN

Division :R & D DEPT.

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Product code(SDS NO) :EN200120W-4

2. Hazards Identification

GHS classification and label elements of the product

GHS classification

PHYSICAL HAZARDS

Flammable liquids : Category 3

HEALTH HAZARDS

Acute toxicity Oral : Category 4

Skin corrosion/irritation : Category 2

Eye damage /eye irritation : Category 2

Carcinogenicity : Category 2

Reproductive toxicity : Category 1B

Specific target organ toxicity-single exposure : Category 1

Specific target organ toxicity - single exposure; Narcosis Category 3

Specific target organ toxicity-repeated exposure : Category 1

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment-acute toxicity : Category 2

Hazardous to the aquatic environment-chronic toxicity : Category 2



Signal word : Danger

HAZARD STATEMENT

Flammable liquid and Vapor

Harmful if swallowed.

Causes skin irritation.

Causes eye irritation

Suspected of causing cancer

May damage fertility or the unborn child

Causes damage to organs after single exposure.

May cause drowsiness and dizziness

Causes damage to organs following repeated exposure.

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Wash contaminated parts 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.
 Wear protective gloves/eye protection/face protection.
 Use personal protective equipment as required.

Response

Get medical advice/attention if you feel unwell.
 Rinse mouth.
 Take off contaminated clothing and wash before reuse.
 Collect spillage.
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 IF ON SKIN: Wash with plenty of soap and water.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 If skin irritation occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 In case of fire: Use appropriate media other than water for extinction.

Storage

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

Disposal

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

3. Composition/Information on Ingredients

Substance/Preparation :Preparation

| Ingredient name | content(%) | CAS No. | PRTR law No, Japan |
|-----------------------|------------|------------|--------------------|
| Dichloromethane | 88.3 | 75-09-2 | 1-186 |
| Methanol | 5 - 10 | 67-56-1 | - |
| Activator | 0.1 - 1 | Non Public | - |
| Thickener | 1 - 5 | Non Public | - |
| Evaporation inhibitor | 0.1 - 1 | Non Public | - |
| Aqueous ammonia | 1 - 5 | 1336-21-6 | - |
| Additive | <0.1 | Non Public | - |

4. First-Aid Measures

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.
 Give artificial respiration if victim is not breathing. Get immediate medical attention/advice.

IF ON SKIN

Take off immediately all contaminated clothing and shoes.
 Wash with plenty of soap and water. Never use solvent or thinner.
 If you observe unusual symptom, have irritation/pain and/or feel unwell, seek medical advice.

IF IN EYES :

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse in order to better reach all parts of eyes.

Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Do NOT induce vomiting.

Do not give an unconscious person anything to drink.

Seek medical advice immediately and show this container or label.

5. Fire-Fighting Measures**Suitable extinguishing media**

In case of fire, use water mist, foam, dry powder or CO₂.

Specific hazards arising from the chemical

(Dichloromethane)

Decomposes in a flame or hot surface to form toxic and corrosive gases of phosgene, hydrogen chloride and chlorine.

Specific fire-fighting measures

Use appointed fire extinguisher.

Remove flammable matters quickly from nearby.

Apply water from a safe distance to cool and protect surrounding area.

Special protective equipment and precautions for fire-fighters

Fire extinguishing work has to be done from windward.

Wear proper protective equipment.

6. Accidental Release Measures**Personnel precautions, protective equipment and emergency procedures**

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Keep unauthorized personnel away.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for neutralization, containment and cleaning up

Place in a covered container.

Use non-sparking tools to collect absorbed material.

Preventive measures for secondary accident

Prepare extinguishers before catching fire.

7. Handling and Storage**Precautions for safe handling****Preventive measures**

Use personal protective equipment as required.

Take precautionary measures against static discharge.

Safety Measures/Incompatibility

Handle in good ventilation.

Do not handle until all safety precautions have been read and understood.

Conditions for safe storage, including any incompatibilities**Recommendation for storage**

Keep container tightly closed.

Protect from sunlight. Store in a well-ventilated place.

8. Exposure Control/Personal Protection

Control parameters e.g. occupational exposure limit values or biological limit values

Control value

(Dichloromethane)

Japan control value (2004) \leq 50ppm

(Methanol)

Japan control value (1995) \leq 200ppm

Adopted value

(Methanol)

JSOH(1963) 200ppm; 260mg/m³ (dermal)

(Dichloromethane)

JSOH(1999) 50ppm; 170mg/m³; (ceiling) 100ppm; 340mg/m³

(Dichloromethane)

ACGIH(1997) TWA: 50ppm (COHb-emia; CNS impair)

(Methanol)

ACGIH(1992) TWA: 200ppm

STEL: 250ppm (Skin)(Headache; eye dam)

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Exhaust/ventilator should be available.

If work in closed space such as tank, must have ventilator capable to clean air in the bottom.

Protective equipment

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

Skin and body protection

Wear protective gloves/clothing

9. Physical and Chemical Properties

Physical properties

Appearance :liquid

Color :Pale blue

pH :ca 10.9

Flash point :28°C(Seta closed style)(on the analogy of similar article)

Specific gravity :ca 1.24

10. Stability and Reactivity

Stability

(Dichloromethane)

Vinyl chloride, hydrogen chloride, phosgene and carbon monoxide may form when heated to decomposition.

Possibility of hazardous reactions

(Dichloromethane)

Can react dangerously with strong oxidizers, strong reducers, aluminium powder, magnesium powder, sodium and calcium.

Conditions to avoid

(Dichloromethane)

Avoid heat.

Avoid contact with strong oxidizers, strong reducers, alkaline metal and metal powder.

11. Toxicological Information

Symptoms related to the physical, chemical and toxicological characteristics

Acute toxicity

Oral toxicity component(s) data

(Aqueous ammonia)

rat LD50 =350mg/kg (RTECS (1997))

(Methanol)

human LD50=ca. 1400mg/kg (DFGOT vol.16 (2001))

(Dichloromethane)

rat LD50=1,600 mg/kg (evaluated by EPA_JP vol.2 (2003))

Labor standard law, Japan; Toxic

Methanol; Dichloromethane

Safety measure published substances, Japan

Dichloromethane

Irritant properties

Skin corrosion/Irritation component(s) data

(Methanol)

rabbit 20 mg/24H ; MODERATE

(Aqueous ammonia)

rabbit 750 μ g ; SEVERE rabbit 44 μ g ; SEVERE rabbit 100 mg rinse ; SEVERE

(Dichloromethane)

rabbit 810 mg/24H ; SEVERE

Serious eye damage /irritation

Eye damage/irritation component(s) data

(Methanol)

rabbit 40 mg ; MODERATE 100 mg/24H ; MODERATE

(Dichloromethane)

rabbit 162 mg ; MODERATE rabbit 10 mg ; MILD

Mutagenic effects

(Dichloromethane) Registered-24(1997)

Carcinogenic effects

(Dichloromethane)

IARC-Gr.2B ; Possibly carcinogenic to humans.

(Dichloromethane)

ACGIH-A3(1997) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

(Dichloromethane)

JSOH-2B; Insufficient Evidence of Carcinogenicity for Humans

(Dichloromethane)

EU-Category 3; Causes concern for Human carcinogenic effect

Toxicity for reproduction

(Methanol) PATTY (5th, 2001) et al

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Specific target organ toxicity (single exposure cat.1)

(Dichloromethane) CNS; respiratory apparatus/system (CERI/NITE hazard assessment No.15 (2004))

Specific target organ toxicity (single exposure cat.2)

(Methanol) CNS; vision/organ of vision; systemic toxicity (DFGOT vol.16 (2001) et al)

Specific target organ toxicity (single exposure cat.3 drowsiness/dizziness)

(Dichloromethane) Narcosis (CERI/NITE hazard assessment No.15 (2004))

Specific target organ toxicity (repeated exposure cat.1)

(Dichloromethane) CNS; liver (CERI/NITE hazard assessment No.15 (2004))

Specific target organ toxicity (repeated exposure cat.2)

(Methanol) CNS; vision/organ of vision (ACGIH (7th? 2001) et al)

12. Ecological Information

Ecotoxicity

Acutic toxicity

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

(Aqueous ammonia)

Crustacea(Daphnia magna) LC50=0.66mg/L/48hr (HSDB, 2004)

(Methanol)

Crustacea(Brine shrimp) LC50=900.73 mg/L/24hr (EHC196, 1998)

(Dichloromethane)

Fish(fat head minnow) LC50=5.2 mg/L/96hr (EHC164, 1996)

Water solubility

(Aqueous ammonia)

miscible (ICSC, 1995)

(Methanol)

miscible (ICSC, 2000)

(Dichloromethane)

1.3 g/100 ml (20 C) (ICSC, 2000)

Persistence and degradability

(Dichloromethane)

BOD_Degradation : 13%(Registered chemicals data check & review, Japan)

Bioaccumulative potential

(Methanol)

log Pow=-0.82/-0.66 (ICSC, 2000)

(Dichloromethane)

log Pow=1.25 (ICSC, 2000) ; BCF=40 (Check & Review, Japan)

13. Disposal Considerations

Waste residues

Avoid release to the environment (- if this is not the intended use).

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

Industrial disposals control law, Japan

contents > 2mg/L or extracts > 0.2mg/L

Dichloromethane

Soil contaminant control law, Japan

Underground water < 0.02mg/L

Dichloromethane

Clean water act, Japan

harmful substance, drainage =< 0.2mg/L

Dichloromethane

harmful substance, drainage =< 100mg-Total N/L

Aqueous ammonia

14. Transport Information

UN No, UN CLASS

UN No :1992

UN CLASS :3

Sub. Risk :6.1

PG :III

Proper shipping name :FLAMMABLE LIQUID, TOXIC, N.O.S.

ERG GUIDE NO :131

Sea pollutants control law

Noxious Liquid ; Cat. Y :Aqueous ammonia; Methanol; Dichloromethane

Special precautions in connection with transport or conveyance

Follow instruction in Handling & Storage.

15. Regulatory Information

- Industrial Safety and Health law, Japan
 - Organic Solvents Class II :Methanol;Dichloromethane
 - Harmful substances to be indicated :Methanol;Dichloromethane
 - Flammable
 - Chemical name et al should be informed :Aqueous ammonia;Methanol;Dichloromethane
- PRTR law, Japan
 - Listed chemicals Gr.1 :Dichloromethane
- Fire protection law, Japan
 - Petroleums Gr.2, (Class III)
- Ship cargo control law, Japan
 - Flammable liquids
- Air cargo control law, Japan
 - Flammable liquids
- Chemical Substances Control Law, Japan
 - Priority Assessment Chemical Substances : Dichloromethane
- Clean air act, Japan
 - Listed substance ; TWA(in Air)=<0.15mg/m³/yearAve.
 - Dichloromethane
 - Specific substance
 - Methanol

16. Other Information/References

- Reference Book
 - Globally Harmonized System of classification and labelling of chemicals, (4th ed., 2011), UN
 - Recommendations on the TRANSPORT OF DANGEROUS GOODS 17th edit. UN
 - Classification, labelling and packaging of substances and mixtures (reg.(EC) No 1272/2008)
 - 2008 EMERGENCY RESPONSE GUIDEBOOK(US DOT)
 - 2011 TLVs and BEIs. (ACGIH)
 - <http://monographs.iarc.fr/monoeval/grlist.html>
 - Supplier's SDS

Other information

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own test