

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 9/21/2021 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product code : 1937KNA

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Cleansing product

1.3. Supplier

KÄRCHER NORTH AMERICA
6398 N Karcher Way
Aurora, 80019
United States
T 303-738-2400
info@karcherna.com

1.4. Emergency telephone number

Emergency number : 800-535-5053
For Chemical Emergency Call INFOTRAC 24hr/day 7days/week
Within USA and Canada: 1-800-535-5053
Outside USA and Canada: 1-352-323-3500
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

| | | |
|--|------|------------------------------|
| Flammable liquids Category 3 | H226 | Flammable liquid and vapour |
| Acute toxicity (oral) Category 4 | H302 | Harmful if swallowed |
| Acute toxicity (dermal) Category 4 | H312 | Harmful in contact with skin |
| Serious eye damage/eye irritation Category 1 | H318 | Causes serious eye damage |
| Hazardous to the aquatic environment - Acute Hazard Category 3 | H402 | Harmful to aquatic life |

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) : 

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H226 - Flammable liquid and vapour
H302+H312 - Harmful if swallowed or in contact with skin
H318 - Causes serious eye damage
H402 - Harmful to aquatic life

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P241 - Use explosion-proof electrical/ventilating/lighting equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center/doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center/doctor
P312 - Call a poison center/doctor if you feel unwell
P330 - Rinse mouth.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local regulations

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % |
|------------------|-------------------------------------|-------|
| BUTOXYDIGLYCOL | CAS-No.: 112-34-5 | 1 – 5 |
| AMINE OXIDE | CAS-No.: NJTSRN 489909-5016-P-PC | 1 – 5 |
| ISOPROPANOL | CAS-No.: 67-63-0 | 1 – 5 |
| DECYLAMINE OXIDE | CAS-No.: 2605-79-0 | 1 – 5 |

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapour.
Explosion hazard : No direct explosion hazard.
Reactivity in case of fire : In case of fire: possible release of toxic/corrosive gases/vapours.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not enter fire area without proper protective equipment, including respiratory protection. Eliminate all ignition sources if safe to do so.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-----------------------------------|---|
| Additional hazards when processed | : Keep away from any possible contact with water, because of violent reaction and possible flash fire. |
| Precautions for safe handling | : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. |
| Hygiene measures | : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------|---|
| Technical measures | : Ground/bond container and receiving equipment. |
| Storage conditions | : Store in a well-ventilated place. Keep cool. Keep container tightly closed. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

RM 99 SOLAR PANEL CLEANER

No additional information available

AMINE OXIDE (NJTSRN 489909-5016-P-PC)

No additional information available

BUTOXYDIGLYCOL (112-34-5)

USA - ACGIH - Occupational Exposure Limits

| | |
|----------------------|---|
| Local name | Diethylene glycol monobutyl ether |
| ACGIH OEL TWA [ppm] | 10 ppm (Inhalable fraction and vapor) |
| Remark (ACGIH) | TLV® Basis: Hematologic, liver & kidney eff |
| Regulatory reference | ACGIH 2019 |

ISOPROPANOL (67-63-0)

USA - ACGIH - Occupational Exposure Limits

| | |
|----------------------|--|
| Local name | 2-Propanol |
| ACGIH OEL TWA [ppm] | 200 ppm |
| ACGIH OEL STEL [ppm] | 400 ppm |
| Remark (ACGIH) | TLV® Basis: Eye & URT irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI |
| Regulatory reference | ACGIH 2019 |

USA - OSHA - Occupational Exposure Limits

| | |
|--------------------------------|--------------------------|
| Local name | Isopropyl alcohol |
| OSHA PEL (TWA) [1] | 980 mg/m ³ |
| OSHA PEL (TWA) [2] | 400 ppm |
| Regulatory reference (US-OSHA) | OSHA Annotated Table Z-1 |

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DECYLAMINE OXIDE (2605-79-0)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|------------------------|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Color | : Light yellow |
| Odor | : Characteristic odour |
| Odor threshold | : No data available |
| pH | : 11.9 |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : Not applicable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosion limits | : No data available |
| Explosive properties | : No data available |

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Harmful in contact with skin.
Acute toxicity (inhalation) : Not classified

| RM 99 SOLAR PANEL CLEANER | |
|---------------------------|---|
| ATE US (oral) | 500 mg/kg body weight |
| ATE US (dermal) | 1100 mg/kg body weight |
| BUTOXYDIGLYCOL (112-34-5) | |
| LD50 dermal rabbit | 2764 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal, 14 day(s)) |
| ATE US (oral) | 2410 mg/kg body weight |
| ATE US (dermal) | 2764 mg/kg body weight |
| ISOPROPANOL (67-63-0) | |
| LD50 oral rat | 5840 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rabbit | 12882 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Converted value, Dermal, 14 day(s)) |
| LC50 inhalation rat (ppm) | > 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s)) |

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| ISOPROPANOL (67-63-0) | |
|-----------------------------------|--|
| ATE US (oral) | 5840 mg/kg body weight |
| ATE US (dermal) | 16400 mg/kg body weight |
| DECYLAMINE OXIDE (2605-79-0) | |
| LD50 oral rat | 300 – 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method) |
| LD50 dermal rat | > 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)) |
| ATE US (oral) | 300 mg/kg body weight |
| Skin corrosion/irritation | : Not classified pH: 11.9 |
| Serious eye damage/irritation | : Causes serious eye damage. pH: 11.9 |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |

| ISOPROPANOL (67-63-0) | |
|-----------------------|----------------------|
| IARC group | 3 - Not classifiable |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |

| ISOPROPANOL (67-63-0) | |
|------------------------|------------------------------------|
| STOT-single exposure | May cause drowsiness or dizziness. |
| STOT-repeated exposure | : Not classified |

| BUTOXYDIGLYCOL (112-34-5) | |
|---------------------------|--|
| NOAEL (oral,rat,90 days) | 250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents) |

| DECYLAMINE OXIDE (2605-79-0) | |
|------------------------------------|---|
| NOAEL (oral,rat,90 days) | 40 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | : Not classified |
| Viscosity, kinematic | : No data available |
| Symptoms/effects after eye contact | : Serious damage to eyes. |

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.

| BUTOXYDIGLYCOL (112-34-5) | |
|---------------------------|--|
| LC50 - Fish [1] | 1300 mg/l (Equivalent or similar to OECD 203, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Lethal) |

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| BUTOXYDIGLYCOL (112-34-5) | |
|---------------------------|---|
| EC50 - Daphnia [1] | > 100 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect) |
| ErC50 algae | > 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration) |

| ISOPROPANOL (67-63-0) | |
|-----------------------|--|
| LC50 - Fish [1] | 9640 – 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal) |
| LC50 - Fish [2] | 9640 mg/l Test organisms (species): Pimephales promelas |

| DECYLAMINE OXIDE (2605-79-0) | |
|------------------------------|--|
| LC50 - Fish [1] | 134 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Daphnia [1] | 10.4 mg/l Test organisms (species): Daphnia magna |
| LC50 - Fish [2] | 31.8 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) |
| EC50 - Daphnia [2] | 3.1 mg/l Test organisms (species): Daphnia magna |
| NOEC (chronic) | 0.7 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |
| NOEC chronic fish | 0.42 mg/l Test organisms (species): Pimephales promelas Duration: '302 d' |

12.2. Persistence and degradability

| BUTOXYDIGLYCOL (112-34-5) | |
|-------------------------------|---------------------------------|
| Persistence and degradability | Readily biodegradable in water. |

| ISOPROPANOL (67-63-0) | |
|---------------------------------|--|
| Persistence and degradability | Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 1.19 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 2.23 g O ₂ /g substance |
| ThOD | 2.4 g O ₂ /g substance |

12.3. Bioaccumulative potential

| BUTOXYDIGLYCOL (112-34-5) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 1 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| ISOPROPANOL (67-63-0) | |
|---|--|
| Partition coefficient n-octanol/water (Log Pow) | 0.05 (Weight of evidence approach, 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

12.4. Mobility in soil

| BUTOXYDIGLYCOL (112-34-5) | |
|---------------------------|--------------------------------|
| Surface tension | 27 mN/m (25 °C, 0.00212 mol/g) |
| Ecology - soil | Highly mobile in soil. |

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| ISOPROPANOL (67-63-0) | |
|-----------------------|--|
| Surface tension | No data available (test not performed) |
| Ecology - soil | Highly mobile in soil. |

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

14.1. UN number

DOT NA No : UN1993

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s. (ISOPROPANOL), 3, III

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 3
Hazard labels (DOT) : 3



14.4. Packing group

Packing group (DOT) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
UN-No.(DOT) : UN1993

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

RM 99 SOLAR PANEL CLEANER

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

| | | |
|-------------|---------------------------------|--------|
| AMINE OXIDE | CAS-No. NJTSRN 489909-5016-P-PC | 1 – 5% |
|-------------|---------------------------------|--------|

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| | | |
|-------------------|-----------------|--------|
| ISOPROPYL ALCOHOL | CAS-No. 67-63-0 | 1 – 5% |
|-------------------|-----------------|--------|

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases

| | |
|------|------------------------------|
| H226 | Flammable liquid and vapour |
| H302 | Harmful if swallowed |
| H312 | Harmful in contact with skin |
| H318 | Causes serious eye damage |
| H402 | Harmful to aquatic life |

NFPA health hazard

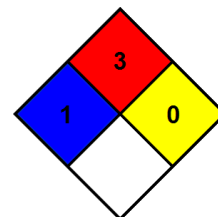
: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

: B - Safety glasses, Gloves

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.