## Section 1. Identification of the substance/preparation and of the company/undertaking

**Product name:**
LOCTITE AA 3341 BN15LEN/SP

**Other means of identification:**
LOCTITE AA 3341 BN15LEN/SP

**Product code:**
IDH2594366

**Recommended use of the chemical and restrictions on use**

**Intended use:**
Adhesive

**Manufacturer/Importer/Distributor Representative Company**

Henkel Thailand Ltd. The Offices at Centralworld,
35th Floor, 999/9 Rama 1 Rd.,
Kwang Patumwan, Khet Patumwan,
10330 Bangkok

Thailand

Phone: +66 (2209) 8000
Fax-no.: +66 (2209) 8008

**E-mail address of person responsible for Safety Data Sheet:**
ap-ua-psra.sea@henkel.com

**Emergency Telephone for Chemical Accidents:**
FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call: +662 209 8008

## Section 2. Hazards identification

**GHS Classification:**

| Hazard Class | Hazard Category | Route of Exposure |
|---|---|---|
| Acute toxicity | Category 4 | Oral |
| Skin corrosion/irritation | Category 2 | |
| Serious eye damage/eye irritation | Category 1 | |
| Skin sensitizer | Category 1 | |
| Toxic to reproduction | Category 1B | |
| Chronic hazards to the aquatic environment | Category 2 | |

**GHS label elements:**

**Hazard pictogram:**



**Signal word:**
Danger

**Hazard statement:**
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H360 May damage fertility or the unborn child.
H411 Toxic to aquatic life with long lasting effects.

**Precaution:**

**Prevention:**
P201 Obtain special instructions before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
**Response:**
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/… if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
**Disposal:**
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## Section 3. Composition / information on ingredients

**Substance or Mixture:**
Mixture

**Declaration of hazardous chemical:**

| Hazard component CAS-No. | Content | GHS Classification |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | 10- 30 % | Flammable liquids 4<br>H227<br>Acute toxicity 3; Oral<br>H301<br>Acute toxicity 3; Dermal<br>H311<br>Serious eye damage/eye irritation 1<br>H318<br>Skin sensitizer 1B<br>H317 |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | 10- 30 % | Acute toxicity 4; Oral<br>H302<br>Skin corrosion/irritation 1<br>H314<br>Skin sensitizer 1B<br>H317<br>Toxic to reproduction 1B<br>H360<br>Acute hazards to the aquatic environment 2<br>H401<br>Chronic hazards to the aquatic environment 2<br>H411 |
| Isobornyl acrylate<br>5888-33-5 | 1- 10 % | Acute toxicity 5; Oral<br>H303<br>Skin sensitizer 1A<br>H317<br>Acute hazards to the aquatic environment 1<br>H400<br>Chronic hazards to the aquatic environment 1<br>H410 |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | 1- 10 % | Skin sensitizer 1B<br>H317<br>Toxic to reproduction 1B<br>H360<br>Acute hazards to the aquatic environment 2<br>H401<br>Chronic hazards to the aquatic environment 2<br>H411 |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | 1- 10 % | Acute toxicity 5; Oral<br>H303<br>Acute hazards to the aquatic environment 3<br>H402<br>Chronic hazards to the aquatic environment 3<br>H412 |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | 1- 10 % | Acute toxicity 4; Oral<br>H302<br>Acute toxicity 4; Dermal<br>H312<br>Skin corrosion/irritation 2<br>H315<br>Serious eye damage/eye irritation 2B<br>H320<br>Skin sensitizer 1A<br>H317<br>Acute hazards to the aquatic environment 2<br>H401<br>Chronic hazards to the aquatic environment 3<br>H412 |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | 0.1- 1 % | Flammable liquids 4<br>H227<br>Serious eye damage/eye irritation 2A<br>H319<br>Toxic to reproduction 1B<br>H360 |

## Section 4. First aid measures

**Inhalation:**
Move to fresh air. If symptoms persist, seek medical advice.

**Skin contact:**
Rinse with running water and soap.
Obtain medical attention if irritation persists.

**Eye contact:**
Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

**Ingestion:**
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

**Indication of immediate medical attention and special treatment needed:**
See section: Description of first aid measures

## Section 5. Fire fighting measures

**Suitable extinguishing media:**
Carbon dioxide, foam, powder

**Specific hazards arising from the chemical:**
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

**Special protection equipment and precautions for firefighters:**
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Additional fire fighting advice:**
In case of fire, keep containers cool with water spray.

## Section 6. Accidental release measures

**Personal precautions:**
Avoid skin and eye contact.
Wear protective equipment.
Ensure adequate ventilation.
See advice in section 8

**Environmental precautions:**
Do not empty into drains / surface water / ground water.

**Clean-up methods:**
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.
Dispose of contaminated material as waste according to Section 13.

## Section 7. Handling and storage

**Handling:**
Use only in well-ventilated areas.
Avoid skin and eye contact.
Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.
See advice in section 8
Ventilation will remove any ozone that may be produced by the ultra violet lamp

**Storage:**
Store in original containers at 8-21°C (46.4-69.8°F) and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product.
Refer to Technical Data Sheet.

## Section 8. Exposure controls / personal protection

**Components with specific control parameters for workplace:**

**Respiratory protection:**
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Ensure adequate ventilation.
Filter type: A (EN 14387)

**Hand protection:**
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

**Body protection:**
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Engineering controls:**
Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

**General protection and hygiene measures:**
The workplace should be equipped with an emergency shower and eye-rinsing facility.

**Hygienic measures:**
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Take off contaminated clothing and wash before reuse.

## Section 9. Physical and chemical properties

| | |
|---|---|
| **Appearance:** | Light yellow<br>liquid |
| **Odor:** | Mild |
| **Odor threshold (CA):** | No data available. |
| **pH:** | Not applicable, Product is non-soluble (in water). |
| **Melting point / freezing point:** | Not applicable, Product is a liquid |
| **Specific gravity:** | 1.094 |
| **Boiling point:** | > 93.0 °C (> 199.4 °F) |
| **Flash point:**<br>(Tagliabue closed cup) | 88.9 °C (192.02 °F) |
| **Evaporation rate:** | Not available. |
| **Flammability (solid, gas):** | No data available. |
| **Lower explosive limit:** | No data available. |
| **Upper explosive limit:** | No data available. |
| **Vapor pressure:**<br>(; 20.0 °C (68 °F)) | < 6.67 mbar |
| **Vapor density:** | > 1<br>Heavier than air |
| **Density:** | 1.0940 g/cm3 |
| **Solubility:** | Slight (20 °C) |
| **Partition coefficient: n-octanol/water:** | No data available. |
| **Auto ignition:** | No data available. |
| **Decomposition temperature:** | No data available. |
| **Viscosity:** | No data available. |
| **VOC content:**<br>(2010/75/EC) | < 3.00 % |

## Section 10. Stability and reactivity

**Reactivity/Incompatible materials:**
Oxidizers.
Reducing agents.
**Chemical stability:**
Stable under recommended storage conditions.
**Conditions to avoid:**
Stable
Protect from direct sunlight.
Avoid contact with acids and oxidizing agents.
**Hazardous decomposition products:**
carbon oxides.

## Section 11. Toxicological information

| | |
|---|---|
| **Oral toxicity:** | Acute toxicity estimate (ATE) : 770.2 mg/kg<br>Method: Calculation method |
| **Dermal toxicity:** | Acute toxicity estimate (ATE) : > 2,000 mg/kg<br>Method: Calculation method |
| **Skin irritation:** | Result: Category 2 (irritant)<br><br>Method: OECD Guideline 404 (Acute Dermal Irritation / Corrosion)<br>Result: Category 2 (irritant) |

Symptoms of Overexposure**:** After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).
SKIN: Redness, inflammation.
INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

SKIN: Rash, Urticaria.

**Acute oral toxicity:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Value type | LD50 |
| | Value | > 215 - 464 mg/kg |
| | Species | rat |
| | Method | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| N,N-Dimethylacrylamide<br>2680-03-7 | Value type | Acute toxicity estimate (ATE) |
| | Value | 216 mg/kg |
| | Species | |
| | Method | Expert judgement |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Value type | LD50 |
| | Value | 928 mg/kg |
| | Species | rat |
| | Method | OECD Guideline 401 (Acute Oral Toxicity) |
| Isobornyl acrylate<br>5888-33-5 | Value type | LD50 |
| | Value | 4,350 mg/kg |
| | Species | rat |
| | Method | not specified |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Value type | LD50 |
| | Value | > 5,000 mg/kg |
| | Species | rat |
| | Method | OECD Guideline 401 (Acute Oral Toxicity) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | LD50 |
| | Value | > 2,000 - < 5,000 mg/kg |
| | Species | rat |
| | Method | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | Acute toxicity estimate (ATE) |
| | Value | 2,500 mg/kg |
| | Species | |
| | Method | Expert judgement |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | LD50 |
| | Value | 1,106 mg/kg |
| | Species | rat |
| | Method | BASF Test |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Value type | LD50 |
| | Value | > 2,000 mg/kg |
| | Species | rat |
| | Method | OECD Guideline 423 (Acute Oral toxicity) |

**Acute inhalative toxicity:**

| | | |
|---|---|---|
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | LC50 |
| | Value | > 1 mg/l |
| | Exposure time | 4 h |
| | Species | rat |
| | Method | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |

**Acute dermal toxicity:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Value type | LD50 |
| | Value | 500 mg/kg |
| | Species | rat |
| | Method | not specified |
| Isobornyl acrylate<br>5888-33-5 | Value type | LD50 |
| | Value | > 3,000 mg/kg |
| | Species | rabbit |
| | Method | not specified |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Value type | LD50 |
| | Value | > 2,000 mg/kg |
| | Species | rat |
| | Method | OECD Guideline 402 (Acute Dermal Toxicity) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | LD50 |
| | Value | > 5,000 mg/kg |
| | Species | rat |
| | Method | OECD Guideline 402 (Acute Dermal Toxicity) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | LD50 |
| | Value | > 1,000 - < 2,000 mg/kg |
| | Species | rabbit |
| | Method | OECD Guideline 402 (Acute Dermal Toxicity) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | Acute toxicity estimate (ATE) |
| | Value | 1,001 mg/kg |
| | Species | |
| | Method | Expert judgement |

**Skin corrosion/irritation:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | not irritating |
| | Exposure time | 24 h |
| | Species | rabbit |
| | Method | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Result | corrosive |
| | Exposure time | 4 h |
| | Species | rabbit |
| | Method | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Isobornyl acrylate<br>5888-33-5 | Result | not irritating |
| | Exposure time | 24 h |
| | Species | rabbit |
| | Method | other guideline: |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | not irritating |
| | Exposure time | 24 h |
| | Species | rabbit |
| | Method | not specified |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Result | not irritating |
| | Exposure time | 24 h |
| | Species | rabbit |
| | Method | EPA OPP 81-5 (Acute Dermal Irritation) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Result | irritating |
| | Exposure time | 4 h |
| | Species | rabbit |
| | Method | equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | not irritating |
| | Exposure time | 4 h |
| | Species | rabbit |
| | Method | EPA OPP 81-5 (Acute Dermal Irritation) |

**Serious eye damage/irritation:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | irritating or corrosive |
| | Exposure time | |
| | Species | rabbit |
| | Method | equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | corrosive |
| | Exposure time | |
| | Species | Bovine, cornea, in vitro test |
| | Method | OECD Guideline 437 (BCOP) |
| Isobornyl acrylate<br>5888-33-5 | Result | not irritating |
| | Exposure time | |
| | Species | rabbit |
| | Method | other guideline: |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | not irritating |
| | Exposure time | |
| | Species | rabbit |
| | Method | not specified |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Result | not irritating |
| | Exposure time | |
| | Species | rabbit |
| | Method | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Result | Category 2B (mildly irritating to eyes) |
| | Exposure time | |
| | Species | rabbit |
| | Method | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | irritating |
| | Exposure time | |
| | Species | rabbit |
| | Method | EPA OPP 81-4 (Acute Eye Irritation) |

**Respiratory or skin sensitization:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | Sub-Category 1B (sensitising) |
| | Test type | |
| | Species | |
| | Method | Weight of evidence |
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | positive |
| | Test type | Patch-Test |
| | Species | human |
| | Method | Patch Test |
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | positive |
| | Test type | Direct peptide reactivity assay (DPRA) |
| | Species | cysteine and lysine, in chemico test |
| | Method | OECD Guideline 442C (Direct Peptide Reactivity Assay (DPRA)) |
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | positive |
| | Test type | Activation of keratinocytes |
| | Species | human keratinocytes, in vitro test |
| | Method | OECD Guideline 442D (ARE-Nrf2 Luciferase Test Method) |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Result | sensitising |
| | Test type | other: |
| | Species | human |
| | Method | Expert judgement |
| Isobornyl acrylate<br>5888-33-5 | Result | sensitising |
| | Test type | Mouse local lymphnode assay (LLNA) |
| | Species | mouse |
| | Method | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | sensitising |
| | Test type | Mouse local lymphnode assay (LLNA) |
| | Species | mouse |
| | Method | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Result | not sensitising |
| | Test type | Guinea pig maximisation test |
| | Species | guinea pig |
| | Method | OECD Guideline 406 (Skin Sensitisation) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Result | Sub-Category 1A (sensitising) |
| | Test type | Guinea pig maximisation test |
| | Species | guinea pig |
| | Method | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | not sensitising |
| | Test type | Mouse local lymphnode assay (LLNA) |
| | Species | mouse |
| | Method | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |

**Germ cell mutagenicity:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | negative |
| | Type of study / Route of administration | |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | negative |
| | Type of study / Route of administration | |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | negative |
| | Type of study / Route of administration | oral: gavage |
| | Metabolic activation / Exposure time | |
| | Species | mouse |
| | Method | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Result | negative |
| | Type of study / Route of administration | bacterial reverse mutation assay (e.g Ames test) |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Result | negative |
| | Type of study / Route of administration | in vitro mammalian chromosome aberration test |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Result | negative |
| | Type of study / Route of administration | mammalian cell gene mutation assay |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Isobornyl acrylate<br>5888-33-5 | Result | negative |
| | Type of study / Route of administration | bacterial reverse mutation assay (e.g Ames test) |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Isobornyl acrylate<br>5888-33-5 | Result | negative |
| | Type of study / Route of administration | mammalian cell gene mutation assay |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Isobornyl acrylate<br>5888-33-5 | Result | negative |
| | Type of study / Route of administration | in vitro mammalian cell micronucleus test |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | negative |
| | Type of study / Route of administration | bacterial reverse mutation assay (e.g Ames test) |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | negative |
| | Type of study / Route of administration | in vitro mammalian chromosome aberration test |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | negative |
| | Type of study / Route of administration | mammalian cell gene mutation assay |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Result | negative |
| | Type of study / Route of administration | bacterial reverse mutation assay (e.g Ames test) |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Result | negative |
| | Type of study / Route of administration | mammalian cell gene mutation assay |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 1-Hydroxycyclohexyl phenyl | Result | negative |

| | | |
|---|---|---|
| ketone<br>947-19-3 | Type of study / Route of administration | oral: gavage |
| | Metabolic activation / Exposure time | |
| | Species | hamster, Chinese |
| | Method | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | negative |
| | Type of study / Route of administration | bacterial reverse mutation assay (e.g Ames test) |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | negative |
| | Type of study / Route of administration | in vitro mammalian chromosome aberration test |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | negative |
| | Type of study / Route of administration | mammalian cell gene mutation assay |
| | Metabolic activation / Exposure time | with and without |
| | Method | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |

**Repeated dose toxicity:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | NOAEL=10 mg/kg |
| | Route of application | dermal |
| | Exposure time / Frequency of treatment | 13 weeks6 hours/day, 7 days/week |
| | Species | rat |
| | Method | OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study) |
| Isobornyl acrylate<br>5888-33-5 | Result | NOAEL=100 mg/kg |
| | Route of application | oral: gavage |
| | Exposure time / Frequency of treatment | once daily |
| | Species | rat |
| | Method | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Result | NOAEL=100 mg/kg |
| | Route of application | oral: gavage |
| | Exposure time / Frequency of treatment | 3 m5 d/w |
| | Species | rat |
| | Method | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Result | NOAEL=300 mg/kg |
| | Route of application | oral: gavage |
| | Exposure time / Frequency of treatment | 91-92 ddaily |
| | Species | rat |
| | Method | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | NOAEL=500 ppm |
| | Route of application | oral: feed |
| | Exposure time / Frequency of treatment | 91-93 ddaily |
| | Species | rat |
| | Method | not specified |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Result | NOAEL=1000 ppm |
| | Route of application | oral: feed |
| | Exposure time / Frequency of treatment | 91-93 ddaily |
| | Species | rat |
| | Method | not specified |

## Section 12. Ecological information

**General ecological information:** Do not empty into drains / surface water / ground water.

**Ecotoxicity:** H411 Toxic to aquatic life with long lasting effects.

**Toxicity:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide 2680-03-7 | Value type | LC50 |
| | Value | > 120 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Oncorhynchus mykiss |
| | Method | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| N,N-Dimethylacrylamide 2680-03-7 | Value type | EC50 |
| | Value | > 120 mg/l |
| | Acute Toxicity Study | Daphnia |
| | Exposure time | 48 h |
| | Species | Daphnia magna |
| | Method | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| N,N-Dimethylacrylamide 2680-03-7 | Value type | EC50 |
| | Value | > 400 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | Value type | NOEC |
| | Value | 50 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| N,N-Dimethylacrylamide 2680-03-7 | Value type | EC50 |
| | Value | > 1,000 mg/l |
| | Acute Toxicity Study | Bacteria |
| | Exposure time | 3 h |
| | Species | activated sludge, domestic |
| | Method | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Tetrahydrofurfuryl acrylate 2399-48-6 | Value type | LC50 |
| | Value | 7.32 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Danio rerio |
| | Method | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Tetrahydrofurfuryl acrylate 2399-48-6 | Value type | EC50 |
| | Value | 37.7 mg/l |
| | Acute Toxicity Study | Daphnia |
| | Exposure time | 48 h |
| | Species | Daphnia magna |
| | Method | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Tetrahydrofurfuryl acrylate 2399-48-6 | Value type | EC50 |
| | Value | 3.92 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | Value type | EC10 |
| | Value | 2.48 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Tetrahydrofurfuryl acrylate 2399-48-6 | Value type | EC50 |
| | Value | 263.7 mg/l |
| | Acute Toxicity Study | Bacteria |
| | Exposure time | 3 h |
| | Species | activated sludge of a predominantly domestic sewage |
| | Method | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Isobornyl acrylate 5888-33-5 | Value type | LC50 |
| | Value | 0.704 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Danio rerio |

| | | |
|---|---|---|
| | Method | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Isobornyl acrylate<br>5888-33-5 | Value type | EC50 |
| | Value | 1 mg/l |
| | Acute Toxicity Study | Daphnia |
| | Exposure time | 48 h |
| | Species | Daphnia magna |
| | Method | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Isobornyl acrylate<br>5888-33-5 | Value type | NOEC |
| | Value | 0.405 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | Value type | EC50 |
| | Value | 1.98 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Value type | LC50 |
| | Value | 1.4 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Cyprinus carpio |
| | Method | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Value type | EC50 |
| | Value | 3.53 mg/l |
| | Acute Toxicity Study | Daphnia |
| | Exposure time | 48 h |
| | Species | Daphnia magna |
| | Method | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Value type | EC50 |
| | Value | > 2.01 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | Value type | EC10 |
| | Value | 1.56 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide<br>75980-60-8 | Value type | EC50 |
| | Value | > 1,000 mg/l |
| | Acute Toxicity Study | Bacteria |
| | Exposure time | 30 min |
| | Species | |
| | Method | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | LC50 |
| | Value | 24 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Danio rerio |
| | Method | EU Method C.1 (Acute Toxicity for Fish) |
| | Value type | NOEC |
| | Value | 10 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 32 d |
| | Species | Pimephales promelas |
| | Method | OECD Guideline 210 (fish early life stage toxicity test) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | EC50 |
| | Value | 53.9 mg/l |
| | Acute Toxicity Study | Daphnia |
| | Exposure time | 48 h |
| | Species | Daphnia magna |
| | Method | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | EC50 |
| | Value | 14.4 mg/l |
| | Acute Toxicity Study | Algae |

| | | |
|---|---|---|
| | Exposure time | 72 h |
| | Species | Desmodesmus subspicatus |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | Value type | EC10 |
| | Value | 2.51 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Desmodesmus subspicatus |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | Value type | EC10 |
| | Value | > 100 mg/l |
| | Acute Toxicity Study | Bacteria |
| | Exposure time | 3 h |
| | Species | activated sludge |
| | Method | EU Method C.11 (Biodegradation: Activated Sludge Respiration Inhibition Test) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | LC50 |
| | Value | > 10 - 22 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Leuciscus idus |
| | Method | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | EC50 |
| | Value | 90 mg/l |
| | Acute Toxicity Study | Daphnia |
| | Exposure time | 48 h |
| | Species | Daphnia magna |
| | Method | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | EC50 |
| | Value | > 3.2 - < 10 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata) |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | Value type | NOEC |
| | Value | > 0.1 - 1 mg/l |
| | Acute Toxicity Study | Algae |
| | Exposure time | 72 h |
| | Species | Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata) |
| | Method | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | Value type | EC10 |
| | Value | 1,800 mg/l |
| | Acute Toxicity Study | Bacteria |
| | Exposure time | 17 h |
| | Species | |
| | Method | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test) |
| | Value type | EC50 |
| | Value | 770 mg/l |
| | Acute Toxicity Study | Bacteria |
| | Exposure time | 3 h |
| | Species | activated sludge, domestic |
| | Method | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | Value type | LC50 |
| | Value | > 101 mg/l |
| | Acute Toxicity Study | Fish |
| | Exposure time | 96 h |
| | Species | Oryzias latipes |
| | Method | OECD Guideline 203 (Fish, Acute Toxicity Test) |

**Persistence and degradability:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide<br>2680-03-7 | Result | not readily biodegradable. |
| | Route of application | aerobic |
| | Degradability | 0 % |
| | Method | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Tetrahydrofurfuryl acrylate<br>2399-48-6 | Result | not readily biodegradable. |
| | Route of application | aerobic |
| | Degradability | 77.7 % |

| | | |
|---|---|---|
| | Method | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| Isobornyl acrylate 5888-33-5 | Result | inherently biodegradable |
| | Route of application | aerobic |
| | Degradability | 73.9 % |
| | Method | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| | Result | not readily biodegradable. |
| | Route of application | aerobic |
| | Degradability | 57 % |
| | Method | OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace Test) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8 | Result | not readily biodegradable. |
| | Route of application | aerobic |
| | Degradability | 0 - 10 % |
| | Method | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| 1-Hydroxycyclohexyl phenyl ketone 947-19-3 | Result | readily biodegradable |
| | Route of application | aerobic |
| | Degradability | 73 % |
| | Method | EU Method C.4-C (Determination of the "Ready" BiodegradabilityCarbon Dioxide Evolution Test) |
| 2-(2-Ethoxyethoxy)ethyl acrylate 7328-17-8 | Result | |
| | Route of application | no data |
| | Degradability | > 70 % |
| | Method | OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test) |
| | Result | readily biodegradable |
| | Route of application | aerobic |
| | Degradability | 98 % |
| | Method | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| Tetrahydrofurfuryl alcohol 97-99-4 | Result | readily biodegradable |
| | Route of application | aerobic |
| | Degradability | 92 % |
| | Method | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |

**Bioaccumulative potential / Mobility in soil:**

| | | |
|---|---|---|
| N,N-Dimethylacrylamide 2680-03-7 | LogPow | < 0.3 |
| | Temperature | 23 °C |
| | Method | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Tetrahydrofurfuryl acrylate 2399-48-6 | LogPow | 0.81 |
| | Temperature | 21.7 °C |
| | Method | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Isobornyl acrylate 5888-33-5 | Bioconcentration factor (BCF) | 37 |
| | Exposure time | 56 h |
| | Species | Danio rerio |
| | Temperature | 24 °C |
| | Method | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |
| Isobornyl acrylate 5888-33-5 | LogPow | 4.52 |
| | Temperature | |
| | Method | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8 | Bioconcentration factor (BCF) | 72 |
| | Exposure time | 8.000 Weeks |
| | Species | Cyprinus carpio |
| | Temperature | |
| | Method | Flow through |
| diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75980-60-8 | LogPow | 3.1 |
| | Temperature | 23 °C |
| | Method | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 1-Hydroxycyclohexyl phenyl ketone 947-19-3 | Bioconcentration factor (BCF) | > 3.5 - 12 |
| | Exposure time | 56 d |
| | Species | Cyprinus carpio |
| | Temperature | |
| | Method | OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish) |

| | | |
|---|---|---|
| 1-Hydroxycyclohexyl phenyl ketone<br>947-19-3 | LogPow | 2.81 |
| | Temperature | 25 °C |
| | Method | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| 2-(2-Ethoxyethoxy)ethyl acrylate<br>7328-17-8 | LogPow | 1.2 |
| | Temperature | 23 °C |
| | Method | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Tetrahydrofurfuryl alcohol<br>97-99-4 | LogPow | -0.14 |
| | Temperature | 24.7 °C |
| | Method | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |

## Section 13. Disposal considerations

**Product**

**Method of disposal:**
Dispose of in accordance with local and national regulations.

**Packaging**

**Disposal of uncleaned packages:**
Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

## Section 14. Transport information

**Road transport ADR:**

| | |
|---|---|
| Class: | 9 |
| Packing group: | III |
| Classification code: | M6 |
| Hazard ident. number: | 90 |
| UN no.: | 3082 |
| Label: | 9 |
| Technical name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |

**Railroad transport RID:**

| | |
|---|---|
| Class: | 9 |
| Packing group: | III |
| Classification code: | M6 |
| Hazard ident. number: | 90 |
| UN no.: | 3082 |
| Label: | 9 |
| Technical name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |

**Inland water transport ADN:**

| | |
|---|---|
| Class: | 9 |
| Packing group: | III |
| Classification code: | M6 |
| Hazard ident. number: | 90 |
| UN no.: | 3082 |
| Label: | 9 |
| Technical name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |

**Marine transport IMDG:**

| | |
|---|---|
| Class: | 9 |
| Packing group: | III |
| UN no.: | 3082 |
| Label: | 9 |
| EmS: | F-A ,S-F |
| Seawater pollutant: | Marine pollutant |
| Proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |

**Air transport IATA:**

| | |
|---|---|
| Class: | 9 |
| Packing group: | III |
| Packaging instructions (passenger): | 964 |
| Packaging instructions (cargo): | 964 |
| UN no.: | 3082 |
| Label: | 9 |
| Proper shipping name: | Environmentally hazardous substance, liquid, n.o.s. (Isobornyl acrylate) |

**Further information for transport:**

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

## Section 15. Regulatory information

**Regulatory Information:**
Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555

**Global inventory status:**

| Regulatory list | Notification |
|---|---|
| TCSI | yes |
| TSCA | yes |
| KECI (KR) | yes |
| IECSC | yes |

## Section 16. Other information

**Disclaimer:**
This Safety Data Sheet has been generated based on Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555 only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.
This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.
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Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).