

| SDS K34 | pages 2-24  |
|---------|-------------|
| SDS K36 | pages 25-46 |
| SDS K38 | pages 47-69 |



# K34

| Version Revision Date: | SDS Number: |
|------------------------|-------------|
| 2.0 19.02.2018         | H53181      |

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

on use

Trade name : K34

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

only.

| Use of the<br>Substance/Mixture | : | Catalyst  |
|---------------------------------|---|---|
| Recommended restrictions        | : | For use in industrial installations or professional treatment |

### 1.3 Details of the supplier of the safety data sheet

| Company  | : | Roberlo s.a.<br>Ctra. Nacional II, Km. 706,5<br>17457 Riudellots de la Selva<br>Spain |
|--|---|---|
| Telephone  | : | +34972478060  |
| Telefax  | : | +34972477394  |
| E-mail address of person responsible for the SDS | : | msds@roberlo.com  |

### 1.4 Emergency telephone number

+34 972 478060 (8:00-12:45 / 14:15-17:30 h) ROBERLO (Spain) (GMT + 1:00)

## **SECTION 2: Hazards identification**

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

| Flammable liquids, Category 3  | H226: Flammable liquid and vapour.                       |
|--|--|
| Acute toxicity, Category 4   | H332: Harmful if inhaled.                                |
| Skin sensitisation, Category 1   | H317: May cause an allergic skin reaction.               |
| Specific target organ toxicity - single exposure, Category 3, Respiratory system | H335: May cause respiratory irritation.                  |
| Chronic aquatic toxicity, Category 3   | H412: Harmful to aquatic life with long lasting effects. |

according to Regulation (EC) No. 1907/2006



# K34

| ersion<br>0  | Revision Date:<br>19.02.2018 | SDS Number:<br>H53181   |
|--------------|------------------------------|---|
| 2 Label elem | ents                         |   |
| Labelling    | (REGULATION (EC)             | No 1272/2008)   |
| Hazard pic   | tograms :                    |   |
| Signal wor   | d :                          | Warning   |
| Hazard sta   | itements :                   | <ul> <li>H226 Flammable liquid and vapour.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H332 Harmful if inhaled.</li> <li>H335 May cause respiratory irritation.</li> <li>H412 Harmful to aquatic life with long lasting effects.</li> </ul>                                   |
| Precaution   | ary statements :             | Prevention:   |
|              |                              | <ul> <li>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</li> <li>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</li> <li>P260 Do not breathe vapours.</li> <li>P260 Do not breathe spray.</li> </ul> |
|              |                              | <b>Response:</b><br>P303 + P361 + P353 IF ON SKIN (or hair): Take off<br>immediately all contaminated clothing. Rinse skin with water.  |
|              |                              | <b>Disposal:</b><br>P501 Dispose of contents/ container to an approved waste disposal plant.  |

HDI oligomers, isocyanurate Solvent naphtha (petroleum), light arom. hexamethylene-di-isocyanate

### Additional Labelling

EUH204 Contains isocyanates. May produce an allergic reaction.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### **SECTION 3: Composition/information on ingredients**

### 3.2 Mixtures

Chemical nature : Paint

### Hazardous components

according to Regulation (EC) No. 1907/2006



# K34

| Version<br>2.0 | Revision Date:<br>19.02.2018 |   | DS Number:<br>53181 |                          |
|----------------|------------------------------|---|---------------------|--------------------------|
| Chemica        | l name                       | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification      | Concentration<br>(% w/w) |
| HDI oligo      | omers, isocyanurate          | 28182-81-2  | Acute Tox. 4; H332  | >= 50 - < 70             |

| HDI oligomers, isocyanurate                  | 28182-81-2<br>500-060-2<br>01-2119485796-17               | Acute Tox. 4; H332<br>Skin Sens. 1; H317<br>STOT SE 3; H335   | >= 50 - < 70   |  |
|--|---|---|----------------|--|
| 2-butoxyethyl acetate                        | 112-07-2<br>203-933-3<br>607-038-00-2<br>01-2119475112-47 | Acute Tox. 4; H302<br>Acute Tox. 4; H312  | >= 1 - < 10    |  |
| n-butyl acetate                              | 123-86-4<br>204-658-1<br>607-025-00-1<br>01-2119485493-29 | Flam. Liq. 3; H226<br>STOT SE 3; H336   | >= 1 - < 10    |  |
| Solvent naphtha (petroleum), light<br>arom.  | 64742-95-6<br>265-199-0<br>649-356-00-4                   | Flam. Liq. 3; H226<br>STOT SE 3; H335<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2;<br>H411   | >= 2.5 - < 10  |  |
| hexamethylene-di-isocyanate                  | 822-06-0<br>212-485-8<br>615-011-00-1<br>01-2119457571-37 | Acute Tox. 4; H302<br>Acute Tox. 1; H330<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Resp. Sens. 1; H334<br>Skin Sens. 1; H317<br>STOT SE 3; H335 | >= 0.1 - < 0.5 |  |
| Substances with a workplace exposure limit : |   |   |                |  |
| 2-methoxy-1-methylethyl acetate              | 108-65-6<br>203-603-9<br>607-195-00-7<br>01-2119475791-29 | Flam. Liq. 3; H226  | >= 20 - < 30   |  |

For explanation of abbreviations see section 16.

## **SECTION 4: First aid measures**

### 4.1 Description of first aid measures

| General advice          | : | Move out of dangerous area.<br>Show this safety data sheet to the doctor in attendance.<br>Do not leave the victim unattended. |
|-------------------------|---|--|
| If inhaled              | : | Consult a physician after significant exposure.<br>If unconscious, place in recovery position and seek medical<br>advice.      |
| In case of skin contact | : | If skin irritation persists, call a physician.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes.         |
| In case of eye contact  | : | Flush eyes with water as a precaution.<br>Remove contact lenses.   |



| Version<br>2.0       | Revision Date<br>19.02.2018 | :                    | SDS Number:<br>H53181  |
|----------------------|-----------------------------|----------------------|--|
|                      |                             | ĸ                    | rotect unharmed eye.<br>Teep eye wide open while rinsing.<br>Teye irritation persists, consult a specialist.   |
| If swallov           | ved                         | C<br>N               | eep respiratory tract clear.<br>To not give milk or alcoholic beverages.<br>lever give anything by mouth to an unconscious person.<br>symptoms persist, call a physician.  |
| 4.2 Most imp         | ortant symptoms an          | d eff                | ects, both acute and delayed   |
| Symptom              |                             | : Ir<br>VFSFIr<br>AV | nhalation may provoke the following symptoms:<br>leadache<br>fertigo<br>atigue<br>kin contact may provoke the following symptoms:<br>ledness<br>ngestion may provoke the following symptoms:<br>bdominal pain<br>fomiting<br>hiarrhoea |
| 4.3 Indicatior       | n of any immediate n        | nedic                | al attention and special treatment needed  |
| Treatmer             | -                           | : Ir                 | n case of ingestion, the stomach should be emptied by gastric avage under qualified medical supervision.   |
| SECTION 5:           | Firefighting meas           | ures                 |  |
| 5.1 Extinguis        | hing media                  |                      |  |
| •                    | extinguishing media         | C                    | Icohol-resistant foam<br>carbon dioxide (CO2)<br>ory chemical  |
| Unsuitab<br>media    | le extinguishing            | : ト                  | ligh volume water jet  |
| 5.2 Special h        | azards arising from         | the s                | ubstance or mixture  |
| -                    | nazards during              | : C                  | o not allow run-off from fire fighting to enter drains or water ourses.  |
| Hazardou<br>products | us combustion               | : N                  | lo hazardous combustion products are known   |
| 5.3 Advice fo        | r firefighters              |                      |  |
|                      | protective equipment        | : Ir                 | the event of fire, wear self-contained breathing apparatus.  |
| Further ir           | nformation                  | n                    | collect contaminated fire extinguishing water separately. This nust not be discharged into drains. ire residues and contaminated fire extinguishing water must   |
|                      |                             |                      | 4 / 22   |



## K34

| Version<br>2.0 | Revision Date:<br>19.02.2018 | SDS Number:<br>H53181   |
|----------------|------------------------------|---|
|                |                              | be disposed of in accordance with local regulations.  |
|                |                              | For safety reasons in case of fire, cans should be stored<br>separately in closed containments.   |
|                |                              | Use a water spray to cool fully closed containers.  |
| SECTION 6:     | Accidental release           | measures  |
| 6.1 Personal   | precautions, protectiv       | ve equipment and emergency procedures   |
| Personal       | precautions :                | Use personal protective equipment.  |
|                |                              | Ensure adequate ventilation.  |
|                |                              | Remove all sources of ignition.<br>Evacuate personnel to safe areas.  |
|                |                              | Beware of vapours accumulating to form explosive  |
|                |                              | concentrations. Vapours can accumulate in low areas.  |
| 6.2 Environm   | ental precautions            |   |
| Environm       | ental precautions :          | Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform |

### 6.3 Methods and material for containment and cleaning up

| Methods for cleaning up | : | Contain spillage, and then collect with non-combustible<br>absorbent material, (e.g. sand, earth, diatomaceous earth,<br>vermiculite) and place in container for disposal according to |
|-------------------------|---|--|
|                         |   | local / national regulations (see section 13).   |

respective authorities.

### 6.4 Reference to other sections

For contact information in case of emergency, see section 1. For information on safe handling, see section 7. For exposure controls and personal protection measures, see section 8. For subsequent waste disposal, follow the recommendations in section 13.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

| Advice on safe handling | <ul> <li>Avoid formation of aerosol.<br/>Do not breathe vapours/dust.<br/>Avoid exposure - obtain special instructions before use.<br/>Avoid contact with skin and eyes.<br/>For personal protection see section 8.<br/>Smoking, eating and drinking should be prohibited in the<br/>application area.<br/>Take precautionary measures against static discharges.<br/>Provide sufficient air exchange and/or exhaust in work rooms.<br/>Open drum carefully as content may be under pressure.<br/>Dispose of rinse water in accordance with local and national<br/>regulations.</li> </ul> |
|-------------------------|--|
|                         | Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not   |



# K34

| Vers<br>2.0 | ion Revision Da<br>19.02.2018                   | ate:  | SDS Number:<br>H53181  |
|-------------|---|-------|--|
|             |   |       | be employed in any process in which this mixture is being used.  |
|             | Advice on protection against fire and explosion | :     | Do not spray on a naked flame or any incandescent material.<br>Take necessary action to avoid static electricity discharge<br>(which might cause ignition of organic vapours). Keep away<br>from open flames, hot surfaces and sources of ignition.  |
|             | Hygiene measures                                | :     | When using do not eat or drink. When using do not smoke.<br>Wash hands before breaks and at the end of workday.  |
| 7.2 (       | Conditions for safe storage                     | , inc | luding any incompatibilities   |
|             | Requirements for storage areas and containers   | :     | No smoking. Keep container tightly closed in a dry and well-<br>ventilated place. Containers which are opened must be<br>carefully resealed and kept upright to prevent leakage.<br>Observe label precautions. Electrical installations / working<br>materials must comply with the technological safety<br>standards. |
|             | Storage period                                  | :     | 12 Months  |
|             | Further information on storage stability        | :     | No decomposition if stored and applied as directed.  |
| 7.3 \$      | Specific end use(s)                             |       |  |
|             | Specific use(s)                                 | :     | For the use of this product do not exist particular recommendations apart from that already indicated.   |

## SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

### **Occupational Exposure Limits**

| Components                  | CAS-No.  | Value type (Form of exposure)   | Control parameters   | Basis  |
|-----------------------------|--|---|--|--|
| HDI oligomers, isocyanurate | 28182-81-2   | TWA   | 0.02 mg/m3<br>(as -NCO)  | GB EH40  |
| Further information         | and respirator<br>responsivenes<br>airways have<br>sometimes ev<br>symptoms can<br>who are expo<br>impossible to<br>responsive. 5<br>distinguished<br>people with pr<br>include the dis<br>asthmagens of | y sensitisers) can in<br>ss via an immunolog<br>become hyper-respo-<br>ren to tiny quantities,<br>n range in severity fr<br>sed to a sensitiser w<br>identify in advance to<br>4 Substances that c<br>from substances wh<br>re-existing airway hy<br>sease themselves. To<br>r respiratory sensitis | ational asthma (also known a<br>duce a state of specific airwa<br>ical, irritant or other mechani<br>onsive, further exposure to th<br>may cause respiratory symp<br>om a runny nose to asthma.<br>ill become hyper-responsive<br>hose who are likely to becom<br>an cause occupational asthm<br>ich may trigger the symptom<br>per-responsiveness, but which<br>he latter substances are not<br>sers., Wherever it is reasonal<br>cause occupational asthma s | y hyper-<br>sm. Once the<br>e substance,<br>otoms. These<br>Not all workers<br>and it is<br>ne hyper-<br>na should be<br>s of asthma in<br>ch do not<br>classified<br>bly practicable, |

according to Regulation (EC) No. 1907/2006



| and respiratory sensitisers) can induce a state of specific airway hyper-<br>responsiveness via an immunological, irritato or other mechanism. Once the<br>airways have become hyper-responsive, further exposure to the substance,<br>sometimes even to tiny quantities, may cause respiratory symptoms. These<br>symptoms can range in severity from a runny nose to asthma. Not all worker<br>who are exposed to a sensitiser will become hyper-responsive and it is<br>impossible to identify in advance those who are likely to become hyper-<br>responsive. 54 Substances that can cause occupational asthma should be<br>distinguished from substances which may trigger the symptoms of asthma in<br>people with pre-existing airway hyper-responsiveness, but which do not<br>include the disease themselves. The latter substances are not classified<br>asthmagens or respiratory sensitisers., Wherever it is reasonably practicable<br>exposure to substances that can cause occupational asthma should be<br>prevented. Where this is not possible, the primary aim is to apply adequate<br>standards of control to prevent workers from becoming hyper-responsive. For<br>substances that can cause occupational asthma, COSHH requires that<br>exposure be reduced as low as is reasonably practicable. Activities giving ris<br>to short-term peak concentrations should receive particular attention when ri<br>management is being considered. Health surveillance is appropriate for all<br>employees exposed or liable to be exposed to a substance which may cause<br>occupational asthma and there should be appropriate consultation with an<br>occupational health professional over the degree of risk and level of<br>surveillance., Capable of causing occupational asthma. The identified<br>substances are those which: - are assigned the risk phrase 'R42: May cause<br>sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation<br>and skin contact' or - are listed in section C of HSE publication 'Asthmagen'<br>Critical assessments of the evidence for agents implicated in occupational<br>asthma' as updated from time to time, or any other su | ersion<br>0 | Revision<br>19.02.201  |   |   | SDS Number:<br>H53181  |   |
|---|-------------|--|---|---|--|---|
| which may cause occupational asthma.         GB EH40           STEL         0.07 mg/m3<br>(as -NCO)         GB EH40           Further information         Substances that can cause occupational asthma (also known as asthmager<br>and respiratory sensitisers) can induce a state of specific airway hyper-<br>responsiveness via an immunological, irritant or other mechanism. Once the<br>airways have become hyper-responsive, further exposure to the substance,<br>sometimes even to tiny quantities, may cause respiratory symptoms. These<br>symptoms can range in severity from a runny nose to asthma. Not all worke<br>who are exposed to a sensitiser will become hyper-responsive and it is<br>impossible to identify in advance those who are likely to become hyper-<br>responsive. 54 Substances that can cause occupational asthma should be<br>distinguished from substances which may trigger the symptoms of asthma in<br>people with pre-existing airway hyper-responsiveness, but which do not<br>include the disease themselves. The latter substances are not classified<br>asthmagens or respiratory sensitisers., Wherever it is reasonably practicable<br>exposure to substances that can cause occupational asthma should be<br>prevented. Where this is not possible, the primary aim is to apply adequate<br>standards of control to prevent workers from becoming hyper-responsive. F-<br>substances that can cause occupational asthma, COSHH requires that<br>exposure be reduced as low as is reasonably practicable. Activities giving ri-<br>to short-term peak concentrations should receive particular attention when r<br>management is being considered. Health surveillance is appropriate for all<br>employees exposed or liable to be exposed to a substance which may caus<br>occupational asthma and there should be appropriate consultation with an<br>occupational health professional over the degree of risk and level of<br>surveillance., Capable of causing occupational asthma. The identified<br>substances are those which: - ar  |             | stand<br>subs<br>expo<br>to sh<br>man<br>emp<br>occu<br>occu<br>surve<br>subs<br>sens<br>and<br>Critic<br>asthi<br>asse  | dards of cont<br>stances that cont<br>out-term peal<br>agement is b<br>loyees expose<br>pational asth<br>pational heal<br>eillance., Cap<br>stances are the<br>itisation by in<br>skin contact'<br>cal assessme<br>ma' as update  | rol to prevent we<br>an cause occup<br>ced as low as is<br>k concentrations<br>eing considered<br>ed or liable to b<br>ma and there sl<br>th professional<br>oable of causing<br>tose which: - ar<br>halation'; or 'R4<br>or - are listed ir<br>ents of the evide<br>ed from time to<br>shown to be a p   | orkers from becoming h<br>bational asthma, COSH<br>reasonably practicable<br>s should receive particul<br>l. Health surveillance is<br>e exposed to a substan-<br>hould be appropriate co<br>over the degree of risk a<br>occupational asthma. T<br>re assigned the risk phra<br>2/43: May cause sensit<br>n section C of HSE publi-<br>nce for agents implicate<br>time, or any other subst-<br>otential cause of occupa-   | yper-responsive. For<br>H requires that<br>A ctivities giving rise<br>ar attention when rise<br>appropriate for all<br>ce which may caus<br>nsultation with an<br>and level of<br>The identified<br>ase 'R42: May caus<br>isation by inhalation<br>ication 'Asthmagen'<br>ed in occupational<br>ance which the risk<br>ational asthma., The   |
| Further information         Substances that can cause occupational asthma (also known as asthmagen<br>and respiratory sensitisers) can induce a state of specific airway hyper-<br>responsiveness via an immunological, irritant or other mechanism. Once the<br>airways have become hyper-responsive, further exposure to the substance,<br>sometimes even to tiny quantities, may cause respiratory symptoms. These<br>symptoms can range in severity from a runny nose to asthma. Not all worker<br>who are exposed to a sensitiser will become hyper-responsive and it is<br>impossible to identify in advance those who are likely to become hyper-<br>responsive. 54 Substances that can cause occupational asthma should be<br>distinguished from substances which may trigger the symptoms of asthma in<br>people with pre-existing airway hyper-responsiveness, but which do not<br>include the disease themselves. The latter substances are not classified<br>asthmagens or respiratory sensitisers. Wherever it is reasonably practicable<br>exposure to substances that can cause occupational asthma should be<br>prevented. Where this is not possible, the primary aim is to apply adequate<br>standards of control to prevent workers from becoming hyper-responsive. For<br>substances that can cause occupational asthma, COSHH requires that<br>exposure be reduced as low as is reasonably practicable. Activities giving ris<br>to short-term peak concentrations should receive particular attention when ri<br>management is being considered. Health surveillance is appropriate for all<br>employees exposed or liable to be exposed to a substance which may cause<br>occupational asthma and there should be appropriate consultation with an<br>occupational asthma and there should be appropriate for short-term<br>peaks concentrations over the degree of risk and level of<br>surveillance., Capable of causing occupational asthma. The identified<br>substances are those which: - are assigned the risk phrase 'R42. May cause<br>sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation<br>and skin contact' or                                  |             |  | h may cause   | occupational as   | sthma.   |   |
| and respiratory sensitisers) can induce a state of specific airway hyper-<br>responsiveness via an immunological, irritant or other mechanism. Once the<br>airways have become hyper-responsive, further exposure to the substance,<br>sometimes even to tiny quantities, may cause respiratory symptoms. These<br>symptoms can range in severity from a runny nose to asthma. Not all worker<br>who are exposed to a sensitiser will become hyper-responsive and it is<br>impossible to identify in advance those who are likely to become hyper-<br>responsive. 54 Substances that can cause occupational asthma should be<br>distinguished from substances which may trigger the symptoms of asthma in<br>people with pre-existing airway hyper-responsiveness, but which do not<br>include the disease themselves. The latter substances are not classified<br>asthmagens or respiratory sensitisers., Wherever it is reasonably practicable<br>exposure to substances that can cause occupational asthma should be<br>prevented. Where this is not possible, the primary aim is to apply adequate<br>standards of control to prevent workers from becoming hyper-responsive. For<br>substances that can cause occupational asthma, COSHH requires that<br>exposure be reduced as low as is reasonably practicable. Activities giving ris<br>to short-term peak concentrations should receive particular attention when ri<br>management is being considered. Health surveillance is appropriate for all<br>employees exposed or liable to be exposed to a substance which may cause<br>occupational asthma and there should be appropriate consultation with an<br>occupational health professional over the degree of risk and level of<br>surveillance., Capable of causing occupational asthma. The identified<br>substances are those which: - are assigned the risk phrase 'R42: May cause<br>sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation<br>and skin contact' or - are listed in section C of HSE publication 'Asthmagen'<br>Critical assessments of the evidence for agents implicated in occupational<br>asthma' as updated from time to time, or any other su |             |  |   |   | (as -NCO)  |   |
| which may cause occupational asthma.2-methoxy-1-108-65-6TWA50 ppm2000/39/EC   |             | resp<br>airwa<br>some<br>symj<br>who<br>impo<br>resp<br>distin<br>peop<br>inclu<br>asthi<br>expo<br>prev<br>stand<br>subs<br>expo<br>to sh<br>man<br>emp<br>occu<br>occu<br>surv<br>subs<br>sens<br>and<br>Critic<br>asthi<br>asse<br>'Sen<br>whic | onsiveness v<br>ays have bec<br>etimes even to<br>otoms can rai<br>are exposed<br>ossible to ider<br>onsive. 54 S<br>nguished from<br>ole with pre-et<br>de the disease<br>magens or re<br>osure to subst<br>ented. Where<br>dards of cont<br>tances that co<br>our be redu<br>ort-term peal<br>agement is b<br>loyees expose<br>pational asth<br>pational heal<br>eillance., Cap<br>tances are the<br>itisation by in<br>skin contact'<br>cal assessme<br>ma' as update<br>ssment has s'<br>notation in the<br>h may cause | ia an immunologione hyper-resp<br>on tiny quantities<br>inge in severity f<br>to a sensitiser with<br>the severity in advance<br>ubstances that on<br>substances that can<br>be themselves.<br>spiratory sensiti<br>tances that can<br>this is not poss<br>rol to prevent we<br>an cause occup<br>ced as low as is<br>k concentrations<br>eing considered<br>ed or liable to b<br>ma and there sl<br>th professional<br>bable of causing<br>the professional<br>the professional<br>cause which: - ar<br>inhalation'; or 'R4<br>or - are listed in<br>ints of the evide<br>ed from time to<br>shown to be a p<br>he list of WELs<br>occupational as | gical, irritant or other me<br>ionsive, further exposure<br>s, may cause respiratory<br>from a runny nose to ast<br>will become hyper-respondent<br>those who are likely to be<br>can cause occupational<br>nich may trigger the syn<br>yper-responsiveness, bu<br>The latter substances and<br>isers., Wherever it is reac<br>cause occupational asth<br>sible, the primary aim is<br>orkers from becoming h<br>bational asthma, COSH<br>is reasonably practicable<br>is should receive particul<br>l. Health surveillance is<br>e exposed to a substan-<br>nould be appropriate co<br>over the degree of risk a<br>occupational asthma. The<br>assigned the risk phra-<br>to agents implicated<br>ince for agents implicated<br>time, or any other substan-<br>house to a substan-<br>ne assigned the risk phra-<br>tication C of HSE publi-<br>nce for agents implicated<br>time, or any other substan-<br>has been assigned only<br>sthma. | echanism. Once the<br>e to the substance,<br>y symptoms. These<br>thma. Not all worker<br>onsive and it is<br>become hyper-<br>asthma should be<br>not classified<br>asonably practicable<br>to apply adequate<br>yper-responsive. For<br>a requires that<br>a Activities giving ris<br>ar attention when ris<br>appropriate for all<br>ce which may cause<br>nsultation with an<br>and level of<br>The identified<br>ase 'R42: May caus<br>isation by inhalation<br>ication 'Asthmagen'<br>ed in occupational<br>ance which the risk<br>attention asthma., The<br>to those substance |

according to Regulation (EC) No. 1907/2006



| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53181      |

| acetate                         |  |   |   |   |
|---------------------------------|--|---|---|---|
| Further information             | Identifies the   | possibility of signification  | ant uptake through the skin,  | Indicative  |
|                                 |  | STEL  | 100 ppm<br>550 mg/m3  | 2000/39/EC  |
| Further information             | Identifies the   | possibility of signification  | ant uptake through the skin,  | Indicative  |
|                                 |  | TWA   | 50 ppm<br>274 mg/m3   | GB EH40   |
| Further information             |  |   | e assigned substances are t<br>sorption will lead to systemic   |   |
|                                 |  | STEL  | 100 ppm<br>548 mg/m3  | GB EH40   |
| Further information             |  |   | e assigned substances are t<br>sorption will lead to systemic   |   |
| 2-butoxyethyl acetate           | 112-07-2   | TWA   | 20 ppm<br>133 mg/m3   | 2000/39/EC  |
| Further information             | Identifies the   | oossibility of significa  | ant uptake through the skin,  | Indicative  |
|                                 |  | STEL  | 50 ppm<br>333 mg/m3   | 2000/39/EC  |
| Further information             | Identifies the   | possibility of signification  | ant uptake through the skin,  | Indicative  |
|                                 |  | TWA   | 20 ppm  | GB EH40   |
| Further information             |  |   | e assigned substances are t<br>sorption will lead to systemic   |   |
|                                 |  | STEL  | 50 ppm  | GB EH40   |
| Further information             |  |   | e assigned substances are t<br>sorption will lead to systemic   |   |
| n-butyl acetate                 | 123-86-4   | TWA   | 150 ppm<br>724 mg/m3  | GB EH40   |
|                                 |  | STEL  | 200 ppm<br>966 mg/m3  | GB EH40   |
| hexamethylene-di-<br>isocyanate | 822-06-0   | TWA   | 0.02 mg/m3<br>(as -NCO)   | GB EH40   |
| Further information             | and respirator<br>responsivenes<br>airways have<br>sometimes ev<br>symptoms car<br>who are exposi-<br>impossible to<br>responsive. 5<br>distinguished<br>people with pr<br>include the dis<br>asthmagens of<br>exposure to su-<br>prevented. Wi<br>standards of of<br>substances th<br>exposure be r<br>to short-term pr<br>management | y sensitisers) can in<br>ss via an immunolog<br>become hyper-respo-<br>en to tiny quantities<br>n range in severity fr<br>sed to a sensitiser w<br>identify in advance to<br>4 Substances that can<br>from substances wh<br>re-existing airway hy<br>sease themselves. To<br>r respiratory sensitis<br>ubstances that can can<br>here this is not possi-<br>control to prevent wo<br>at can cause occupa-<br>educed as low as is<br>peak concentrations<br>is being considered. | ational asthma (also known a<br>duce a state of specific airwa<br>ical, irritant or other mechan<br>onsive, further exposure to the<br>may cause respiratory symp<br>om a runny nose to asthma.<br>ill become hyper-responsive<br>hose who are likely to becom<br>an cause occupational asthma<br>ich may trigger the symptom<br>per-responsiveness, but whi<br>the latter substances are not<br>sers., Wherever it is reasona<br>cause occupational asthma s<br>ble, the primary aim is to appre-<br>reasonably practicable. Activity<br>should receive particular atto<br>Health surveillance is appro- | ay hyper-<br>ism. Once the<br>ne substance,<br>btoms. These<br>Not all workers<br>and it is<br>ne hyper-<br>na should be<br>s of asthma in<br>ch do not<br>classified<br>bly practicable,<br>should be<br>oly adequate<br>responsive. For<br>uires that<br>vities giving rise<br>ention when risk<br>priate for all |

according to Regulation (EC) No. 1907/2006



| rsion<br>)                 |          | sion Date:<br>2.2018   |   | SDS Number:<br>H53181  |  |
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|                            |          | surveillance.,<br>substances a<br>sensitisation and skin cont<br>Critical asses<br>asthma' as up<br>assessment h<br>'Sen' notation   | Capable of causing<br>re those which: - a<br>by inhalation'; or 'R<br>act' or - are listed i<br>sments of the evide<br>odated from time to<br>has shown to be a p<br>in the list of WELs  | over the degree of risk a<br>g occupational asthma. The<br>re assigned the risk phras<br>42/43: May cause sensitis<br>n section C of HSE public<br>ence for agents implicated<br>time, or any other substa<br>potential cause of occupation<br>has been assigned only  | he identified<br>se 'R42: May caus<br>sation by inhalatio<br>cation 'Asthmagen<br>d in occupational<br>ince which the risk<br>tional asthma., Th   |
|                            |          | which may ca   | use occupational a  | 0.07 mg/m3<br>(as -NCO)  | GB EH40  |
| Further info               | ormation | and respirator<br>responsivene<br>airways have<br>sometimes ev<br>symptoms ca<br>who are expo<br>impossible to<br>responsive. {<br>distinguished<br>people with p<br>include the di<br>asthmagens of<br>exposure to s<br>prevented. W<br>standards of of<br>substances th<br>exposure be n<br>to short-term<br>management<br>employees ex<br>occupational<br>occupational<br>surveillance.,<br>substances a<br>sensitisation i<br>and skin cont<br>Critical asses<br>asthma' as up<br>assessment h | ry sensitisers) can i<br>ss via an immunolo<br>become hyper-res<br>ven to tiny quantitie<br>n range in severity<br>sed to a sensitiser<br>identify in advance<br>54 Substances that<br>from substances that<br>from substances ware-<br>existing airway h<br>sease themselves.<br>or respiratory sensi<br>ubstances that can<br>here this is not pos<br>control to prevent w<br>nat can cause occu<br>reduced as low as i<br>peak concentration<br>is being considered<br>(posed or liable to h<br>asthma and there shealth professional<br>Capable of causing<br>re those which: - a<br>by inhalation'; or 'R<br>act' or - are listed i<br>sments of the evide<br>odated from time to<br>nas shown to be a p | pational asthma (also known<br>induce a state of specific<br>ogical, irritant or other mea-<br>ponsive, further exposure<br>s, may cause respiratory<br>from a runny nose to asth<br>will become hyper-respor-<br>e those who are likely to b<br>can cause occupational asth<br>hich may trigger the sym<br>hyper-responsiveness, bu<br>The latter substances are<br>tisers., Wherever it is rease<br>a cause occupational asth<br>sible, the primary aim is t<br>vorkers from becoming hy<br>pational asthma, COSHH<br>s reasonably practicable.<br>Is should receive particula<br>d. Health surveillance is a<br>be exposed to a substance<br>should be appropriate con<br>over the degree of risk an<br>g occupational asthma. The<br>re assigned the risk phrase<br>42/43: May cause sensitis<br>n section C of HSE public<br>ence for agents implicated<br>time, or any other substance<br>otential cause of occupational<br>has been assigned only | airway hyper-<br>chanism. Once the<br>to the substance,<br>symptoms. These<br>ma. Not all worke<br>nsive and it is<br>ecome hyper-<br>asthma should be<br>ptoms of asthma in<br>t which do not<br>e not classified<br>sonably practicable<br>ma should be<br>o apply adequate<br>per-responsive. For<br>requires that<br>Activities giving ri-<br>ar attention when r<br>uppropriate for all<br>e which may caus<br>isultation with an<br>nd level of<br>he identified<br>se 'R42: May caus<br>sation by inhalation<br>cation 'Asthmagen'<br>d in occupational<br>unce which the risk<br>tional asthma., The |
| HDI oligom                 |          | 28182-81-2   | TWA   | 0.02 mg/m3   | GB EH40  |
| isocyanura<br>Further info |          | and respirator<br>responsivene<br>airways have<br>sometimes ev<br>symptoms ca<br>who are expo  | ry sensitisers) can<br>ss via an immunolo<br>become hyper-res<br>ven to tiny quantitie<br>n range in severity<br>sed to a sensitiser  | (as -NCO)<br>pational asthma (also kno<br>induce a state of specific<br>ogical, irritant or other mer<br>ponsive, further exposure<br>s, may cause respiratory<br>from a runny nose to asth<br>will become hyper-respor<br>those who are likely to b   | airway hyper-<br>chanism. Once the<br>to the substance,<br>symptoms. These<br>ma. Not all worke<br>nsive and it is   |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0 | Revision Date:<br>19.02.2018   | SDS Number:<br>H53181   |   |
|----------------|--|---|---|
|                | distinguished from<br>people with pre-ex-<br>include the diseas<br>asthmagens or re-<br>exposure to subst<br>prevented. Where<br>standards of contr<br>substances that c<br>exposure be reduc<br>to short-term peak<br>management is be<br>employees expos-<br>occupational asth<br>occupational heal<br>surveillance., Cap<br>substances are th<br>sensitisation by in<br>and skin contact <sup>1</sup> of<br>Critical assessme<br>asthma' as update<br>assessment has s  | ubstances that can cause occupational<br>in substances which may trigger the syn<br>kisting airway hyper-responsiveness, b<br>as themselves. The latter substances a<br>spiratory sensitisers., Wherever it is rea-<br>ances that can cause occupational ast<br>this is not possible, the primary aim is<br>rol to prevent workers from becoming h<br>an cause occupational asthma, COSHI<br>ced as low as is reasonably practicable<br>concentrations should receive particu-<br>eing considered. Health surveillance is<br>ed or liable to be exposed to a substan<br>ma and there should be appropriate co<br>th professional over the degree of risk a<br>bable of causing occupational asthma.<br>ose which: - are assigned the risk phra-<br>halation'; or 'R42/43: May cause sensition<br>of the evidence for agents implicate<br>ed from time to time, or any other substan-<br>shown to be a potential cause of occup-<br>tion be a potential cause of occup-<br>tion be a substantian to the substantian of the evidence for agents implicate<br>and the should be appropriate to the substantian of the evidence for agents implicated<br>and the substantian of the evidence for agents implicated<br>and the substantian of the evidence for agents implicated<br>and the substantian of the substantian of the evidence for agents implicated<br>and the substantian of the evidence for agents implicated<br>and the substantian of the evidence for agents implicated<br>and the substantian of the substantian of the evidence for agents implicated<br>and the substantian of the substantian of the evidence for agents implicated<br>and the substantian of the substantian of the evidence for agents implicated<br>and the substantian of the substantian of the substantian of the substantian of the evidence for agents implicated<br>and the substantian of the evidence for agents implicated<br>and the substantian of the sub  | nptoms of asthma in<br>ut which do not<br>re not classified<br>asonably practicable,<br>hma should be<br>to apply adequate<br>hyper-responsive. For<br>H requires that<br>e. Activities giving rise<br>alar attention when risk<br>appropriate for all<br>nee which may cause<br>onsultation with an<br>and level of<br>The identified<br>ase 'R42: May cause<br>tisation by inhalation<br>lication 'Asthmagen?<br>ed in occupational<br>tance which the risk<br>ational asthma., The   |
|                |  | occupational asthma.       EL     0.07 mg/m3       (as -NCO)  | GB EH40   |
| Further in     | and respiratory ser<br>responsiveness vi<br>airways have been<br>sometimes even t<br>symptoms can rar<br>who are exposed<br>impossible to iden<br>responsive. 54 St<br>distinguished from<br>people with pre-ex-<br>include the diseas<br>asthmagens or re-<br>exposure to subst<br>prevented. Where<br>standards of contr<br>substances that can<br>exposure be reduct<br>to short-term peal<br>management is be<br>employees expose<br>occupational asth<br>occupational heal<br>surveillance., Cap<br>substances are th<br>sensitisation by in<br>and skin contact of | an cause occupational asthma (also ki<br>ensitisers) can induce a state of specific<br>ia an immunological, irritant or other me<br>ome hyper-responsive, further exposur<br>o tiny quantities, may cause respiratory<br>nge in severity from a runny nose to as<br>to a sensitiser will become hyper-respo-<br>ntify in advance those who are likely to<br>ubstances that can cause occupational<br>n substances which may trigger the syr-<br>kisting airway hyper-responsiveness, b<br>se themselves. The latter substances a<br>spiratory sensitisers., Wherever it is re-<br>ances that can cause occupational ast<br>to prevent workers from becoming h<br>an cause occupational asthma, COSH<br>ced as low as is reasonably practicable<br>concentrations should receive particu-<br>eing considered. Health surveillance is<br>ed or liable to be exposed to a substan-<br>ma and there should be appropriate co<br>th professional over the degree of risk a<br>ose which: - are assigned the risk phra-<br>halation'; or 'R42/43: May cause sensit<br>or - are listed in section C of HSE publints of the evidence for agents implicated<br>in soft the evidence for agents implicated<br>in the evidence fo | c airway hyper-<br>echanism. Once the<br>re to the substance,<br>y symptoms. These<br>thma. Not all workers<br>onsive and it is<br>become hyper-<br>I asthma should be<br>mptoms of asthma in<br>ut which do not<br>re not classified<br>asonably practicable,<br>thma should be<br>to apply adequate<br>hyper-responsive. For<br>H requires that<br>e. Activities giving rise<br>lar attention when risk<br>appropriate for all<br>nee which may cause<br>onsultation with an<br>and level of<br>The identified<br>ase 'R42: May cause<br>tisation by inhalation<br>lication 'Asthmagen? |

according to Regulation (EC) No. 1907/2006



|  | evision Date:<br>.02.2018  |  | SDS Number:<br>H53181   |   |
|--|--|--|---|---|
|  | assessment<br>'Sen' notatior   | has shown to be a<br>n in the list of WEL  | o time, or any other substa<br>potential cause of occupa<br>s has been assigned only  | tional asthma., Th  |
| 2-butoxyethyl                          | 112-07-2   | ause occupational  | 20 ppm  | 2000/39/EC  |
| acetate                                | 112-01-2   |  | 133 mg/m3   | 2000/00/20  |
| Further information                    | Identifies the   | possibility of signi   | ficant uptake through the s   | kin. Indicative   |
|  |  | STEL   | 50 ppm<br>333 mg/m3   | 2000/39/EC  |
| Further information                    | Identifies the   | <u> </u>   | ficant uptake through the s   |   |
|  |  | TWA  | 20 ppm  | GB EH40   |
| Further information                    |  | cerns that dermal  | The assigned substances absorption will lead to syst  | temic toxicity.   |
|  |  | STEL   | 50 ppm  | GB EH40   |
| Further information                    | there are cor  | cerns that dermal  | The assigned substances absorption will lead to syst  | temic toxicity.   |
| 2-methoxy-1-<br>methylethyl<br>acetate | 108-65-6   | TWA  | 50 ppm<br>275 mg/m3   | 2000/39/EC  |
| Further information                    | Identifies the   |  | ficant uptake through the s   |   |
|  |  | STEL   | 100 ppm<br>550 mg/m3  | 2000/39/EC  |
| Further information                    | Identifies the   | possibility of signi   | ficant uptake through the s   | kin, Indicative   |
|  |  | TWA  | 50 ppm<br>274 mg/m3   | GB EH40   |
| Further information                    |  |  | The assigned substances absorption will lead to system  |   |
|  |  | STEL   | 100 ppm<br>548 mg/m3  | GB EH40   |
| Further information                    |  |  | The assigned substances absorption will lead to system  |   |
| n-butyl acetate                        | 123-86-4   | TWA  | 150 ppm<br>724 mg/m3  | GB EH40   |
|  |  | STEL   | 200 ppm<br>966 mg/m3  | GB EH40   |
| hexamethylene-di-<br>isocyanate        | 822-06-0   | TWA  | 0.02 mg/m3<br>(as -NCO)   | GB EH40   |
| Further information                    | and respirator<br>responsivener<br>airways have<br>sometimes e<br>symptoms ca<br>who are expor<br>impossible to<br>responsive.<br>distinguished<br>people with p<br>include the d<br>asthmagens<br>exposure to s | ery sensitisers) car<br>ess via an immunc<br>e become hyper-re<br>ven to tiny quantiti<br>an range in severit<br>bsed to a sensitise<br>o identify in advance<br>54 Substances that<br>from substances<br>ore-existing airway<br>isease themselves<br>or respiratory sensi<br>substances that ca | supational asthma (also known<br>induce a state of specific<br>logical, irritant or other me-<br>sponsive, further exposure<br>es, may cause respiratory<br>y from a runny nose to asth<br>r will become hyper-respor-<br>te those who are likely to b<br>at can cause occupational a<br>which may trigger the sym<br>hyper-responsiveness, bu<br>s. The latter substances are<br>sitisers., Wherever it is reast<br>in cause occupational asth<br>possible, the primary aim is t | airway hyper-<br>chanism. Once the<br>to the substance,<br>symptoms. These<br>ma. Not all worke<br>nsive and it is<br>ecome hyper-<br>asthma should be<br>ptoms of asthma i<br>t which do not<br>e not classified<br>sonably practicabl<br>ma should be |

according to Regulation (EC) No. 1907/2006



## K34

| /ersion<br>2.0 | Revision Date: 19.02.2018  | SDS Number:<br>H53181   |
|----------------|--|---|
|                | exposure b<br>to short-ten<br>manageme<br>employees<br>occupation<br>occupation<br>surveillance<br>substances<br>sensitisatio<br>and skin co<br>Critical ass<br>asthma' as<br>assessmen<br>'Sen' notati  | that can cause occupational asthma, COSHH requires that<br>e reduced as low as is reasonably practicable. Activities giving ri-<br>m peak concentrations should receive particular attention when r<br>nt is being considered. Health surveillance is appropriate for all<br>exposed or liable to be exposed to a substance which may caus<br>al asthma and there should be appropriate consultation with an<br>al health professional over the degree of risk and level of<br>e., Capable of causing occupational asthma. The identified<br>are those which: - are assigned the risk phrase 'R42: May cause<br>n by inhalation'; or 'R42/43: May cause sensitisation by inhalation<br>essments of the evidence for agents implicated in occupational<br>updated from time to time, or any other substance which the risk<br>t has shown to be a potential cause of occupational asthma., The<br>on in the list of WELs has been assigned only to those substance   |
|                | which may  | cause occupational asthma.<br>STEL 0.07 mg/m3 GB EH40<br>(as -NCO)  |
|                | and respira<br>responsive<br>airways have<br>sometimes<br>symptoms<br>who are ex<br>impossible<br>responsive<br>distinguishe<br>people with<br>include the<br>asthmagen<br>exposure to<br>prevented.<br>standards of<br>substances<br>exposure b<br>to short-tern<br>manageme<br>employees<br>occupation<br>surveillance<br>substances<br>sensitisatio<br>and skin co<br>Critical ass<br>asthma' as<br>assessmen<br>'Sen' notati | a that can cause occupational asthma (also known as asthmager<br>tory sensitisers) can induce a state of specific airway hyper-<br>ness via an immunological, irritant or other mechanism. Once the<br>ve become hyper-responsive, further exposure to the substance,<br>even to tiny quantities, may cause respiratory symptoms. These<br>can range in severity from a runny nose to asthma. Not all worke<br>posed to a sensitiser will become hyper-responsive and it is<br>to identify in advance those who are likely to become hyper-<br>. 54 Substances that can cause occupational asthma should be<br>ed from substances which may trigger the symptoms of asthma in<br>pre-existing airway hyper-responsiveness, but which do not<br>disease themselves. The latter substances are not classified<br>s or respiratory sensitisers., Wherever it is reasonably practicable<br>o substances that can cause occupational asthma should be<br>Where this is not possible, the primary aim is to apply adequate<br>of control to prevent workers from becoming hyper-responsive. For<br>that can cause occupational asthma, COSHH requires that<br>e reduced as low as is reasonably practicable. Activities giving ri-<br>m peak concentrations should receive particular attention when r<br>nt is being considered. Health surveillance is appropriate for all<br>exposed or liable to be exposed to a substance which may caus<br>al asthma and there should be appropriate consultation with an<br>al health professional over the degree of risk and level of<br>e., Capable of causing occupational asthma. The identified<br>e are those which: - are assigned the risk phrase 'R42: May cause<br>n by inhalation'; or 'R42/43: May cause sensitisation by inhalation<br>intact' or - are listed in section C of HSE publication 'Asthmagen<br>essments of the evidence for agents implicated in occupational<br>updated from time to time, or any other substance which the risk<br>t has shown to be a potential cause of occupational asthma. The<br>on in the list of WELs has been assigned only to those substance<br>cause occupational asthma. |

### Biological occupational exposure limits

| Substance name | CAS-No.    | Control parameters | Sampling time | Basis   |
|----------------|------------|--------------------|---------------|---------|
| HDI oligomers, | 28182-81-2 | urinary diamine: 1 | Post task     | GB EH40 |

according to Regulation (EC) No. 1907/2006



## K34

| isocyanurate                    |          | µmol/mol<br>creatinine<br>(Urine)                       |           | BAT            |
|---------------------------------|----------|---|-----------|----------------|
| hexamethylene-di-<br>isocyanate | 822-06-0 | urinary diamine: 1<br>µmol/mol<br>creatinine<br>(Urine) | Post task | GB EH40<br>BAT |

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name                          | End Use | Exposure routes | Potential health effects      | Value       |
|---|---------|-----------------|-------------------------------|-------------|
| 2-methoxy-1-<br>methylethyl acetate     | Workers | Inhalation      | Long-term systemic effects    | 275 mg/m3   |
| 2-butoxyethyl acetate                   | Workers | Inhalation      | Long-term systemic<br>effects | 133 mg/m3   |
| n-butyl acetate                         | Workers | Inhalation      | Long-term systemic<br>effects | 480 mg/m3   |
| Low boiling point naphtha - unspecified | Workers | Inhalation      | Long-term systemic effects    | 608 mg/m3   |
| hexamethylene-di-<br>isocyanate         | Workers | Inhalation      | Long-term local effects       | 0.035 mg/m3 |

### 8.2 Exposure controls

| Personal protective equipment |   |  |
|-------------------------------|---|--|
| Eye protection                | : | Eye wash bottle with pure water<br>Tightly fitting safety goggles  |
| Hand protection<br>Material   | : | Solvent-resistant gloves   |
| Skin and body protection      | : | Impervious clothing<br>Choose body protection according to the amount and<br>concentration of the dangerous substance at the work place. |
| Respiratory protection        | : | In the case of vapour formation use a respirator with an approved filter.  |

## **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

| Appearance          | : 1 | liquid, viscous |
|---------------------|-----|-----------------|
| Colour              | : 0 | colourless      |
| Odour               | : 0 | characteristic  |
| рН                  | : 1 | Not applicable  |
| Melting point/range | : 1 | not determined  |
|                     |     |                 |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0           | Revision Date<br>19.02.2018         | e:   | SDS Number:<br>H53181                               |
|--------------------------|-------------------------------------|------|---|
| Boiling po               | bint/boiling range                  | :    | not determined                                      |
| Flash poir               | nt                                  | :    | 36 °C<br>Method: ISO 1523, closed cup<br>Setaflash  |
| Upper ex<br>flammabil    | plosion limit / Upper<br>lity limit | :    | not determined                                      |
| Lower ex<br>flammabil    | plosion limit / Lower<br>lity limit | :    | not determined                                      |
| Vapour pi                | ressure                             | :    | not determined                                      |
| Density                  |                                     | :    | 1.080 g/cm3 (20 °C)<br>Method: ISO 2811-1           |
| Solubility(<br>Water     | (ies)<br>solubility                 | :    | immiscible  |
| Viscosity<br>Viscos      | sity, dynamic                       | :    | 63 mPa.s (20 °C)<br>Method: ISO 2555                |
| Viscos                   | sity, kinematic                     | :    | > 20.5 mm2/s (40 °C)                                |
| 9.2 Other info           |                                     | ctiv |   |
| 10.1 Reactivit           | -                                   |      | -   |
| 10.2 Chemica<br>No decon | I stability                         | d ap | pplied as directed.                                 |
|                          | ty of hazardous rea                 | ctio |   |
| Hazardou                 | is reactions                        | :    | No decomposition if stored and applied as directed. |
|                          |                                     |      | Vapours may form explosive mixture with air.        |
| 10.4 Conditio            | ns to avoid                         |      |   |
| Condition                | is to avoid                         | :    | Heat, flames and sparks.                            |
| 10.5 Incompa             | tible materials                     |      |   |
|                          |                                     |      |   |

- Materials to avoid : No data available
- 10.6 Hazardous decomposition products
  - No data available



# K34

| Version    | Revision Date:              | SDS Number: |  |
|------------|-----------------------------|-------------|--|
| 2.0        | 19.02.2018                  | H53181      |  |
| SECTION 11 | : Toxicological information |             |  |

## 11.1 Information on toxicological effects

| -                         |      |  |
|---------------------------|------|--|
| Acute toxicity            |      |  |
| Product:                  |      |  |
| Acute oral toxicity       | :    | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method   |
| Acute inhalation toxicity | :    | Acute toxicity estimate: 10 - 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method |
|                           |      | Acute toxicity estimate: 15.31 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method   |
| Acute dermal toxicity     | :    | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method   |
| Components:               |      |  |
| HDI oligomers, isocyanura | ate: |  |
| Acute oral toxicity       | :    | LD50 Oral (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 401  |
| Acute inhalation toxicity | :    | LC50 (Rat): > 0.543 mg/l<br>Exposure time: 4 h<br>Method: OECD Test Guideline 403                                    |
| Acute dermal toxicity     | :    | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402   |
| 2-butoxyethyl acetate:    |      |  |
| Acute oral toxicity       | :    | LD50 Oral (Rat): 1,880 mg/kg<br>Method: OECD Test Guideline 401  |
| Acute inhalation toxicity | :    | LC50 (Rat): 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403              |
| Acute dermal toxicity     | :    | Acute toxicity estimate: 1,100 mg/kg<br>Method: Converted acute toxicity point estimate                              |
| n-butyl acetate:          |      |  |
| Acute oral toxicity       | :    | LD50 Oral (Rat): 10,768 mg/kg<br>Method: OECD Test Guideline 401   |



# K34

| Version<br>2.0 | Revision Date<br>19.02.2018 | e: SDS Number:<br>H53181  |
|----------------|-----------------------------|---|
| Acute inhala   | ation toxicity              | : LC50 (Rat): 23.4 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Acute derm     | al toxicity                 | : LD50 (Rabbit): 17,600 mg/kg<br>Method: OECD Test Guideline 402  |
| Solvent na     | phtha (petroleum            | ), light arom.:   |
| Acute oral to  |                             | : LD50 Oral (Rat): 3,592 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhala   | ation toxicity              | : LC50 (Rat): > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour                                    |
| Acute derm     | al toxicity                 | : LD50 (Rabbit): 3,160 mg/kg<br>Method: OECD Test Guideline 402   |
| hexamethy      | lene-di-isocyanat           | te:   |
| Acute oral to  | oxicity                     | : LD50 Oral (Rat): 738 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhala   | ation toxicity              | : LC50 (Rat): 0.31 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Acute derm     | al toxicity                 | : LD50 (Rabbit): 593 mg/kg<br>Method: OECD Test Guideline 402   |
| 2-methoxy-     | -1-methylethyl ac           | etate:  |
| Acute oral to  | ••••                        | : LD50 Oral (Rat): 8,532 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhala   | ation toxicity              | : LC50 (Rat): 35.7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: gas<br>Method: OECD Test Guideline 403    |
| Acute derm     | al toxicity                 | : LD50 (Rat): 5,000 mg/kg<br>Method: OECD Test Guideline 402  |

### Skin corrosion/irritation

## Product:

Remarks: Based on available data, the classification criteria are not met.



# K34

| sion                          | Revision Date:<br>19.02.2018                                    | SDS Number:<br>H53181   |
|-------------------------------|---|---|
| Serious e                     | ye damage/eye irritation  |   |
| Product:                      |   |   |
| Remarks:                      | Based on available data, the                                    | classification criteria are not met.                                    |
| Respirato                     | ry or skin sensitisation  |   |
| <u>Product:</u><br>Result: Ma | ay cause sensitisation by skin                                  | contact.  |
| Germ cell                     | mutagenicity  |   |
| Product:                      |   |   |
|                               |   | d on available data, the classification criteria are not me             |
| Carcinoge                     | enicity   |   |
| Product:                      |   |   |
| Carcinoge<br>Assessme         | -   | d on available data, the classification criteria are not me             |
| Reproduc                      | tive toxicity   |   |
| Product:                      |   |   |
| Reproduct<br>Assessme         | 2   | d on available data, the classification criteria are not me             |
| STOT - sii                    | ngle exposure   |   |
| Product:                      |   |   |
|                               | nt: The substance or mixture<br>category 3 with respiratory tra | is classified as specific target organ toxicant, single act irritation. |
| STOT - re                     | peated exposure   |   |
| Product:                      |   |   |
|                               | Based on available data, the                                    | classification criteria are not met.                                    |
| Aspiration                    | n toxicity  |   |
| Product:<br>Based on a        | available data, the classificati                                | on criteria are not met.  |
|                               |   |   |
| Further in                    | formation   |   |

Remarks: Based on available data, the classification criteria are not met.

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# K34

| Version | Revision Date:<br>19.02.2018 | SDS Number:<br>H53181 |
|---------|------------------------------|-----------------------|
| 2.0     | 19.02.2018                   | H03181                |

## **SECTION 12: Ecological information**

## 12.1 Toxicity

## Components:

| HDI oligomers, isocyanurate                         |       |   |
|---|-------|---|
| Toxicity to algae                                   | :     | EC50 (Algae): 370 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201                |
| 2-butoxyethyl acetate:                              |       |   |
| Toxicity to fish                                    | :     | LC50 (Fish): 28 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203                  |
| Toxicity to daphnia and other aquatic invertebrates | :     | EC50 (Daphnia (water flea)): 37 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202  |
| Toxicity to algae                                   | :     | EC50 (Algae): 1,570 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201              |
| n-butyl acetate:                                    |       |   |
| Toxicity to fish                                    | :     | LC50 (Fish): 18 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203                  |
| Toxicity to daphnia and other aquatic invertebrates | :     | EC50 (Daphnia (water flea)): 32 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202  |
| Toxicity to algae                                   | :     | EC50 (Algae): 675 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201                |
| Solvent naphtha (petroleum)                         | ), li | ght arom.:  |
| Toxicity to fish                                    | :     | LC50 (Fish): 9.2 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203                 |
| Toxicity to daphnia and other aquatic invertebrates | :     | EC50 (Daphnia (water flea)): 3.2 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae                                   | :     | EC50 (Algae): 2.9 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201                |

2-methoxy-1-methylethyl acetate:



# K34

| Version<br>2.0                        | Revision Date:<br>19.02.2018            | SDS Number:<br>H53181  |
|---------------------------------------|---|--|
| Toxicity to                           | fish :                                  | LC50 (Fish): 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203  |
|                                       | daphnia and other :<br>vertebrates      | EC50 (Daphnia (water flea)): 408 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202  |
| Toxicity to                           | algae :                                 | EC50 (Algae): 1,000 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201   |
| 12.2 Persisten<br>No data av          | <b>ce and degradability</b><br>/ailable |  |
| <b>12.3 Bioaccum</b><br>No data av    | n <b>ulative potential</b><br>/ailable  |  |
| <b>12.4 Mobility i</b><br>No data av  |   |  |
| 12.5 Results o                        | f PBT and vPvB asse                     | essment  |
| Product:<br>Assessme                  | nt :                                    | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |
| 12.6 Other adv                        | verse effects                           |  |
| Product:<br>Additional<br>information | -                                       | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.<br>Harmful to aquatic life with long lasting effects.  |
| SECTION 13:                           | Disposal consider                       | ations   |
| 13.1 Waste tre                        | atment methods                          |  |
| Product                               | :                                       | The product should not be allowed to enter drains, water courses or the soil.<br>Do not contaminate ponds, waterways or ditches with chemical or used container.                                   |

|  | Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers.<br>Do not burn, or use a cutting torch on, the empty drum. |
|--|--|
|--|--|

chemical or used container.

Send to a licensed waste management company.



|   | Revision Date:<br>19.02.2018 | SDS Number:<br>H53181                                      |
|---|------------------------------|--|
| SECTION 14: Trans   | sport informat               | ion  |
| 14.1 UN number  |                              |  |
| IMDG  | :                            | UN 1263  |
| IATA (Cargo)  | :                            | UN 1263  |
| 14.2 UN proper shipp  | oing name                    |  |
| ADR   | :                            | PAINT RELATED MATERIAL                                     |
| IMDG  | :                            | PAINT RELATED MATERIAL                                     |
| IATA (Cargo)  | :                            | Paint related material                                     |
| 14.3 Transport hazar  | d class(es)                  |  |
| ADR   | :                            | 3  |
| IMDG  | :                            | 3  |
| IATA (Cargo)  | :                            | 3  |
| 14.4 Packing group  |                              |  |
| ADR<br>Packing group<br>Classification Coo<br>Hazard Identificat<br>Labels<br>IMDG<br>Packing group<br>Labels |                              | III<br>F1<br>30<br>3<br>III<br>3                           |
| EmS Code<br>IATA (Cargo)<br>Packing instructio<br>aircraft)<br>Packing instructio<br>Packing group<br>Labels  |                              | F-E, <u>S-E</u><br>366<br>Y344<br>III<br>Flammable Liquids |
| 14.5 Environmental h  | nazards                      |  |
| ADR   |                              |  |
| Environmentally h   | nazardous :                  | no   |
| <b>IMDG</b><br>Marine pollutant   | :                            | no   |
| 14.6 Special precauti<br>Not applicable   | ons for user                 |  |
| 14.7 Transport in bul<br>Not applicable for   | -                            | Annex II of Marpol and the IBC Code<br>plied.              |



## K34

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53181      |

### **SECTION 15: Regulatory information**

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| P5c | FLAMMABLE LIQUIDS   | Quantity 1<br>5,000 t | Quantity 2<br>50,000 t |
|-----|---|-----------------------|------------------------|
| 34  | Petroleum products: (a)<br>gasolines and naphthas,<br>(b) kerosenes (including jet<br>fuels), (c) gas oils<br>(including diesel fuels,<br>home heating oils and gas<br>oil blending streams),(d)<br>heavy fuel oils (e)<br>alternative fuels serving the<br>same purposes and with<br>similar properties as<br>regards flammability and<br>environmental hazards as<br>the products referred to in<br>points (a) to (d) | 2,500 t               | 25,000 t               |
|     |   |                       |                        |

### Other regulations:

The product is classified and labelled in accordance with EC directives or respective national laws.

### 15.2 Chemical safety assessment

The supplier has not carried out evaluation of chemical safety.

## **SECTION 16: Other information**

### Full text of H-Statements

| H302:H304:H312:H315:H317:H319:H330: | Flammable liquid and vapour.<br>Harmful if swallowed.<br>May be fatal if swallowed and enters airways.<br>Harmful in contact with skin.<br>Causes skin irritation.<br>May cause an allergic skin reaction.<br>Causes serious eye irritation.<br>Fatal if inhaled.<br>Harmful if inhaled.<br>May cause allergy or asthma symptoms or breathing<br>difficulties if inhaled.<br>May cause respiratory irritation.<br>May cause drowsiness or dizziness. |
|-------------------------------------|--|
|                                     |  |
|                                     | ,  |
| H411 :                              | Toxic to aquatic life with long lasting effects.   |

### Full text of other abbreviations

according to Regulation (EC) No. 1907/2006



K34

| Version<br>2.0             | Revision Date: 19.02.2018 | SDS Number:<br>H53181   |
|----------------------------|---------------------------|---|
| Acute Tox.                 |                           | Acuto toxicity  |
| Aquatic Chror              | nic ·                     | Acute toxicity<br>Chronic aquatic toxicity                      |
| Aquatic Child<br>Asp. Tox. |                           | Aspiration hazard   |
| Eye Irrit.                 | :                         | Eye irritation  |
| Flam. Liq.                 | :                         |   |
| Resp. Sens.                |                           | Respiratory sensitisation                                       |
| Skin Irrit.                | :                         | Skin irritation   |
| Skin Sens.                 | :                         | Skin sensitisation  |
| STOT SE                    |                           | Specific target organ toxicity - single exposure                |
| 2000/39/EC                 | :                         | Europe. Commission Directive 2000/39/EC establishing a first    |
|                            |                           | list of indicative occupational exposure limit values           |
| GB EH40                    | :                         | UK. EH40 WEL - Workplace Exposure Limits                        |
| GB EH40 BA                 |                           | UK. Biological monitoring guidance values                       |
| 2000/39/EC /               | TWA :                     | Limit Value - eight hours                                       |
| 2000/39/EC /               | STEL :                    | Short term exposure limit                                       |
| GB EH40 / TV               | VA :                      | Long-term exposure limit (8-hour TWA reference period)          |
| GB EH40 / ST               | TEL :                     | Short-term exposure limit (15-minute reference period)          |
|                            |                           | cerning the International Carriage of Dangerous Goods by Inland |

Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID -Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Sources of key data used to : http://echa.europa.eu, http://eur-lex.europa.eu compile the Safety Data Sheet



## K34

| Version<br>2.0 | Revision Date:<br>19.02.2018 | SDS Number:<br>H53181               |
|----------------|------------------------------|-------------------------------------|
| Classificat    | ion of the mixture:          | Classification procedure:           |
| Flam. Liq. 3   | 3 H226                       | Based on product data or assessment |
| Acute Tox.     | 4 H332                       | Calculation method                  |
| Skin Sens.     | 1 H317                       | Based on product data or assessment |
| STOT SE 3      | B H335                       | Based on product data or assessment |
| Aquatic Ch     | ronic 3 H412                 | Calculation method                  |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

### GB / EN



# K36

| VersionRevision Date:2.019.02.2018 | SDS Number:<br>H53179 |
|------------------------------------|-----------------------|
|------------------------------------|-----------------------|

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

on use

Trade name : K36

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

only.

| Use of the<br>Substance/Mixture | : | Catalyst  |
|---------------------------------|---|---|
| Recommended restrictions        | : | For use in industrial installations or professional treatment |

### 1.3 Details of the supplier of the safety data sheet

| Company  | : | Roberlo s.a.<br>Ctra. Nacional II, Km. 706,5<br>17457 Riudellots de la Selva<br>Spain |
|--|---|---|
| Telephone  | : | +34972478060  |
| Telefax  | : | +34972477394  |
| E-mail address of person responsible for the SDS | : | msds@roberlo.com  |

### 1.4 Emergency telephone number

+34 972 478060 (8:00-12:45 / 14:15-17:30 h) ROBERLO (Spain) (GMT + 1:00)

## **SECTION 2: Hazards identification**

### 2.1 Classification of the substance or mixture

### Classification (REGULATION (EC) No 1272/2008)

| Flammable liquids, Category 3  | H226: Flammable liquid and vapour.              |
|--|---|
| Acute toxicity, Category 4   | H332: Harmful if inhaled.                       |
| Skin sensitisation, Category 1   | H317: May cause an allergic skin reaction.      |
| Specific target organ toxicity - single<br>exposure, Category 3, Central nervous<br>system | H336: May cause drowsiness or dizziness.        |
| Specific target organ toxicity - single exposure, Category 3, Respiratory system           | H335: May cause respiratory irritation.         |
| Chronic aquatic toxicity, Category 3   | H412: Harmful to aquatic life with long lasting |



# K36

| Version<br>2.0                    | Revision Date: 19.02.2018 | SDS Number:<br>H53179  |
|-----------------------------------|---------------------------|--|
|                                   |                           | effects.   |
| 2.2 Label ele                     | ements                    |  |
|                                   | g (REGULATION (EC)        | No 1272/2008)  |
| Hazard p                          | pictograms :              |  |
| Signal w                          | vord :                    | Warning  |
| Hazard s                          | statements :              | <ul> <li>H226 Flammable liquid and vapour.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H332 Harmful if inhaled.</li> <li>H335 May cause respiratory irritation.</li> <li>H336 May cause drowsiness or dizziness.</li> <li>H412 Harmful to aquatic life with long lasting effects.</li> </ul> |
| Supplerr<br>Stateme               | nental Hazard :<br>nts    | EUH066 Repeated exposure may cause skin dryness or cracking.   |
| Precauti                          | onary statements :        | Prevention:  |
|                                   |                           | <ul> <li>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</li> <li>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</li> <li>P260 Do not breathe vapours.</li> <li>P260 Do not breathe spray.</li> </ul>                |
|                                   |                           | Response:  |
|                                   |                           | P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  |
|                                   |                           | Disposal:  |
|                                   |                           | P501 Dispose of contents/ container to an approved waste disposal plant.   |
| HDI olige<br>n-butyl a<br>Solvent | omers, isocyanurate       | nust be listed on the label:<br>ht arom.   |

### Additional Labelling

EUH204 Contains isocyanates. May produce an allergic reaction.

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



# K36

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53179      |

## **SECTION 3: Composition/information on ingredients**

### 3.2 Mixtures

Chemical nature : Paint

## Hazardous components

| Chemical name                                | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number     | Classification  | Concentration<br>(% w/w) |  |  |
|--|---|---|--------------------------|--|--|
| HDI oligomers, isocyanurate                  | 28182-81-2<br>500-060-2<br>01-2119485796-17               | Acute Tox. 4; H332<br>Skin Sens. 1; H317<br>STOT SE 3; H335   | >= 50 - < 70             |  |  |
| n-butyl acetate                              | 123-86-4<br>204-658-1<br>607-025-00-1<br>01-2119485493-29 | Flam. Liq. 3; H226<br>STOT SE 3; H336   | >= 20 - < 30             |  |  |
| Solvent naphtha (petroleum), light<br>arom.  | 64742-95-6<br>265-199-0<br>649-356-00-4                   | Flam. Liq. 3; H226<br>STOT SE 3; H335<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2;<br>H411   | >= 2.5 - < 10            |  |  |
| hexamethylene-di-isocyanate                  | 822-06-0<br>212-485-8<br>615-011-00-1<br>01-2119457571-37 | Acute Tox. 4; H302<br>Acute Tox. 1; H330<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Resp. Sens. 1; H334<br>Skin Sens. 1; H317<br>STOT SE 3; H335 | >= 0.1 - < 0.5           |  |  |
| Substances with a workplace exposure limit : |   |   |                          |  |  |
| 2-methoxy-1-methylethyl acetate              | 108-65-6<br>203-603-9<br>607-195-00-7<br>01-2119475791-29 | Flam. Liq. 3; H226  | >= 1 - < 10              |  |  |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

| General advice          | : | Move out of dangerous area.<br>Show this safety data sheet to the doctor in attendance.<br>Do not leave the victim unattended. |
|-------------------------|---|--|
| lf inhaled              | : | Consult a physician after significant exposure.<br>If unconscious, place in recovery position and seek medical<br>advice.      |
| In case of skin contact | : | If skin irritation persists, call a physician.<br>If on skin, rinse well with water.   |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0        | Revision Date<br>19.02.2018 | SDS Number:<br>H53179  |
|-----------------------|-----------------------------|--|
|                       |                             | If on clothes, remove clothes.   |
| In case of            | eye contact                 | <ul> <li>Flush eyes with water as a precaution.</li> <li>Remove contact lenses.</li> <li>Protect unharmed eye.</li> <li>Keep eye wide open while rinsing.</li> <li>If eye irritation persists, consult a specialist.</li> </ul>  |
| If swallowe           | d                           | <ul> <li>Keep respiratory tract clear.</li> <li>Do not give milk or alcoholic beverages.</li> <li>Never give anything by mouth to an unconscious person.</li> <li>If symptoms persist, call a physician.</li> </ul>  |
| 4.2 Most impo         | rtant symptoms and          | d effects, both acute and delayed  |
| Symptoms              |                             | <ul> <li>Inhalation may provoke the following symptoms:<br/>Headache<br/>Vertigo<br/>Fatigue<br/>Skin contact may provoke the following symptoms:<br/>Redness<br/>Ingestion may provoke the following symptoms:<br/>Abdominal pain<br/>Vomiting<br/>Diarrhoea</li> </ul> |
| 4 3 Indication        | of any immediate m          | nedical attention and special treatment needed   |
| Treatment             | -                           | : In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.   |
| SECTION 5: F          | Firefighting meas           | ures   |
| 5.1 Extinguish        | ing media                   |  |
| -                     | tinguishing media           | : Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>Dry chemical   |
| Unsuitable<br>media   | extinguishing               | : High volume water jet  |
| 5.2 Special haz       | zards arising from t        | the substance or mixture   |
| Specific ha           | azards during               | : Do not allow run-off from fire fighting to enter drains or water courses.  |
| Hazardous<br>products | combustion                  | : No hazardous combustion products are known   |
| 5.3 Advice for        | firefighters                |  |
|                       | otective equipment          | : In the event of fire, wear self-contained breathing apparatus.   |
|                       |                             |  |



## K36

| Version    | Revision Date: | SDS Number:  |
|------------|----------------|--|
| 2.0        | 19.02.2018     | H53179   |
| Further in | formation :    | Collect contaminated fire extinguishing water separately. This<br>must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must<br>be disposed of in accordance with local regulations.<br>For safety reasons in case of fire, cans should be stored<br>separately in closed containments.<br>Use a water spray to cool fully closed containers. |

### **SECTION 6: Accidental release measures**

### 6.1 Personal precautions, protective equipment and emergency procedures

| Personal precautions            | :     | Use personal protective equipment.<br>Ensure adequate ventilation.<br>Remove all sources of ignition.<br>Evacuate personnel to safe areas.<br>Beware of vapours accumulating to form explosive<br>concentrations. Vapours can accumulate in low areas. |
|---------------------------------|-------|--|
| 6.2 Environmental precautions   |       |  |
| Environmental precautions       | :     | Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform<br>respective authorities.   |
| 6.3 Methods and material for co | ontai | nment and cleaning up  |
| Methods for cleaning up         | :     | Contain spillage, and then collect with non-combustible<br>absorbent material, (e.g. sand, earth, diatomaceous earth,<br>vermiculite) and place in container for disposal according to<br>local / national regulations (see section 13).               |

### 6.4 Reference to other sections

For contact information in case of emergency, see section 1. For information on safe handling, see section 7. For exposure controls and personal protection measures, see section 8. For subsequent waste disposal, follow the recommendations in section 13.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

| Advice on safe handling | : | Avoid formation of aerosol.<br>Do not breathe vapours/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the<br>application area.<br>Take precautionary measures against static discharges.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Open drum carefully as content may be under pressure. |
|-------------------------|---|---|
|-------------------------|---|---|

according to Regulation (EC) No. 1907/2006



## K36

| Vers<br>2.0 | sion Revision Da<br>19.02.2018                  | ite:  | SDS Number:<br>H53179  |
|-------------|---|-------|--|
|             |   |       | Dispose of rinse water in accordance with local and national regulations.<br>Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  |
|             | Advice on protection against fire and explosion | :     | Do not spray on a naked flame or any incandescent material.<br>Take necessary action to avoid static electricity discharge<br>(which might cause ignition of organic vapours). Keep away<br>from open flames, hot surfaces and sources of ignition.  |
|             | Hygiene measures                                | :     | When using do not eat or drink. When using do not smoke.<br>Wash hands before breaks and at the end of workday.  |
| 7.2         | Conditions for safe storage,                    | , inc | luding any incompatibilities   |
|             | Requirements for storage areas and containers   | :     | No smoking. Keep container tightly closed in a dry and well-<br>ventilated place. Containers which are opened must be<br>carefully resealed and kept upright to prevent leakage.<br>Observe label precautions. Electrical installations / working<br>materials must comply with the technological safety<br>standards. |
|             | Storage period                                  | :     | 12 Months  |
|             | Further information on storage stability        | :     | No decomposition if stored and applied as directed.  |
| 7.3         | Specific end use(s)                             |       |  |
|             | Specific use(s)                                 | :     | For the use of this product do not exist particular recommendations apart from that already indicated.   |

## **SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

## **Occupational Exposure Limits**

| Components                     | CAS-No.  | Value type (Form<br>of exposure)   | Control parameters   | Basis  |
|--------------------------------|--|--|--|--|
| HDI oligomers,<br>isocyanurate | 28182-81-2   | TWA  | 0.02 mg/m3<br>(as -NCO)  | GB EH40  |
| Further information            | and respirator<br>responsivene<br>airways have<br>sometimes ev<br>symptoms car<br>who are expo<br>impossible to<br>responsive. 5 | y sensitisers) can in<br>ss via an immunolog<br>become hyper-respo<br>en to tiny quantities,<br>n range in severity fr<br>sed to a sensitiser w<br>identify in advance to<br>54 Substances that co | ational asthma (also known a<br>duce a state of specific airwa<br>ical, irritant or other mechani<br>onsive, further exposure to th<br>may cause respiratory symp<br>om a runny nose to asthma.<br>ill become hyper-responsive<br>hose who are likely to becom<br>an cause occupational asthm<br>ich may trigger the symptom | ay hyper-<br>sm. Once the<br>e substance,<br>otoms. These<br>Not all workers<br>and it is<br>he hyper-<br>ha should be |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0 | Revision Date:<br>19.02.2018  | SDS Number:<br>H53179   |
|----------------|---|---|
|                | include the disease<br>asthmagens or resp<br>exposure to substan<br>prevented. Where t<br>standards of contro<br>substances that car<br>exposure be reduce<br>to short-term peak of<br>management is bein<br>employees exposed<br>occupational asthm<br>occupational health<br>surveillance., Capa<br>substances are thos<br>sensitisation by inha<br>and skin contact' or<br>Critical assessment<br>asthma' as updated<br>assessment has sh<br>'Sen' notation in the   | sting airway hyper-responsiveness, but which do not<br>themselves. The latter substances are not classified<br>biratory sensitisers., Wherever it is reasonably practicable,<br>nees that can cause occupational asthma should be<br>his is not possible, the primary aim is to apply adequate<br>I to prevent workers from becoming hyper-responsive. For<br>n cause occupational asthma, COSHH requires that<br>ed as low as is reasonably practicable. Activities giving rise<br>concentrations should receive particular attention when risk<br>ng considered. Health surveillance is appropriate for all<br>d or liable to be exposed to a substance which may cause<br>a and there should be appropriate consultation with an<br>professional over the degree of risk and level of<br>ble of causing occupational asthma. The identified<br>se which: - are assigned the risk phrase 'R42: May cause<br>alation'; or 'R42/43: May cause sensitisation by inhalation<br>- are listed in section C of HSE publication 'Asthmagen?<br>ts of the evidence for agents implicated in occupational<br>I from time to time, or any other substance which the risk<br>own to be a potential cause of occupational asthma., The<br>e list of WELs has been assigned only to those substances<br>occupational asthma.  |
|                | STE   |   |
| Further in     | and respiratory sen<br>responsiveness via<br>airways have becor<br>sometimes even to<br>symptoms can rang<br>who are exposed to<br>impossible to identi-<br>responsive. 54 Sub<br>distinguished from s<br>people with pre-exis<br>include the disease<br>asthmagens or resp<br>exposure to substan<br>prevented. Where t<br>standards of contro<br>substances that can<br>exposure be reduce<br>to short-term peak of<br>management is bein<br>employees exposed<br>occupational health<br>surveillance., Capa<br>substances are thos<br>sensitisation by inha<br>and skin contact' or<br>Critical assessment<br>asthma' as updated | n cause occupational asthma (also known as asthmagens<br>sitisers) can induce a state of specific airway hyper-<br>an immunological, irritant or other mechanism. Once the<br>me hyper-responsive, further exposure to the substance,<br>tiny quantities, may cause respiratory symptoms. These<br>ge in severity from a runny nose to asthma. Not all workers<br>of a sensitiser will become hyper-responsive and it is<br>fy in advance those who are likely to become hyper-<br>ostances that can cause occupational asthma should be<br>substances which may trigger the symptoms of asthma in<br>sting airway hyper-responsiveness, but which do not<br>themselves. The latter substances are not classified<br>biratory sensitisers., Wherever it is reasonably practicable,<br>nees that can cause occupational asthma should be<br>his is not possible, the primary aim is to apply adequate<br>I to prevent workers from becoming hyper-responsive. For<br>n cause occupational asthma, COSHH requires that<br>ed as low as is reasonably practicable. Activities giving rise<br>concentrations should receive particular attention when risk<br>ng considered. Health surveillance is appropriate for all<br>d or liable to be exposed to a substance which may cause<br>a and there should be appropriate consultation with an<br>professional over the degree of risk and level of<br>ble of causing occupational asthma. The identified<br>se which: - are assigned the risk phrase 'R42: May cause<br>alation'; or 'R42/43: May cause sensitisation by inhalation<br>- are listed in section C of HSE publication 'Asthmagen?<br>ts of the evidence for agents implicated in occupational<br>l from time to time, or any other substance which the risk<br>own to be a potential cause of occupational asthma., The |



|  | vision Date:<br>02.2018  |   | SDS Number:<br>H53179  |  |
|--|--|---|--|--|
|  |  |   | ELs has been assigned only   | y to those substand  |
| n-butyl acetate                        | 123-86-4   | ause occupation<br>TWA  | 150 ppm<br>724 mg/m3   | GB EH40  |
|  |  | STEL  | 200 ppm<br>966 mg/m3   | GB EH40  |
| 2-methoxy-1-<br>methylethyl<br>acetate | 108-65-6   | TWA   | 50 ppm<br>275 mg/m3  | 2000/39/E  |
| Further information                    | Identifies the   | possibility of sig  | nificant uptake through the  | skin, Indicative   |
|  |  | STEL  | 100 ppm<br>550 mg/m3   | 2000/39/E  |
| Further information                    | Identifies the   |   | nificant uptake through the  | skin, Indicative   |
|  |  | TWA   | 50 ppm<br>274 mg/m3  | GB EH40  |
| Further information                    |  | ncerns that derm  | n. The assigned substance<br>al absorption will lead to sy   | stemic toxicity.   |
|  |  | STEL  | 100 ppm<br>548 mg/m3   | GB EH40  |
| Further information                    |  |   | n. The assigned substance  |  |
| hexamethylene-di-                      | 822-06-0   | TWA   | al absorption will lead to sy<br>0.02 mg/m3  | GB EH40  |
| isocyanate                             | 022-00-0   | IVVA  | (as -NCO)  | GD EH40  |
|  | responsivent<br>airways have<br>sometimes e<br>symptoms ca<br>who are exp<br>impossible to<br>responsive.<br>distinguished<br>people with p<br>include the c<br>asthmagens<br>exposure to<br>prevented. V<br>standards of<br>substances to<br>exposure be<br>to short-term<br>managemen<br>employees e<br>occupational<br>surveillance.<br>substances a<br>sensitisation<br>and skin con<br>Critical asset | ess via an immu<br>e become hyper-<br>even to tiny quan<br>an range in seve<br>osed to a sensiti-<br>o identify in adva<br>54 Substances to<br>d from substances<br>ore-existing airwa<br>lisease themselv<br>or respiratory se<br>substances that<br>Vhere this is not<br>control to preve<br>that can cause or<br>reduced as low<br>peak concentra<br>t is being consid<br>exposed or liable<br>asthma and the<br>health profession<br>, Capable of cau<br>are those which:<br>by inhalation'; o<br>tact' or - are list<br>ssments of the e | an induce a state of specifi<br>nological, irritant or other m<br>responsive, further exposu-<br>tities, may cause respirator<br>rity from a runny nose to as<br>ser will become hyper-resp<br>nce those who are likely to<br>hat can cause occupational<br>as which may trigger the syn<br>ay hyper-responsiveness, b<br>es. The latter substances a<br>ensitisers., Wherever it is re-<br>can cause occupational as<br>possible, the primary aim is<br>nt workers from becoming f<br>ccupational asthma, COSH<br>as is reasonably practicable<br>tions should receive particu-<br>ered. Health surveillance is<br>to be exposed to a substar<br>re should be appropriate co-<br>onal over the degree of risk<br>sing occupational asthma.<br>- are assigned the risk phr<br>r 'R42/43: May cause sensi-<br>ed in section C of HSE pub-<br>vidence for agents implicat<br>e to time, or any other subs- | echanism. Once the<br>re to the substance<br>y symptoms. These<br>sthma. Not all work<br>onsive and it is<br>become hyper-<br>I asthma should be<br>mptoms of asthma<br>but which do not<br>are not classified<br>asonably practicate<br>thma should be<br>to apply adequate<br>hyper-responsive. In<br>H requires that<br>e. Activities giving<br>ular attention when<br>appropriate for all<br>noce which may cau<br>onsultation with an<br>and level of<br>The identified<br>rase 'R42: May cau<br>tisation by inhalation<br>lication 'Asthmage<br>ed in occupational |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0          |           | ision Date:<br>02.2018   |   | SDS Number:<br>H53179  |   |
|-------------------------|-----------|--|---|--|---|
|                         |           |  | in the list of WELs I use occupational as   | has been assigned only to the  | ose substances  |
|                         |           |  | STEL  | 0.07 mg/m3<br>(as -NCO)  | GB EH40   |
|                         | formation | and respirator<br>responsivenes<br>airways have<br>sometimes ev<br>symptoms can<br>who are expo-<br>impossible to<br>responsive. 5<br>distinguished<br>people with pr<br>include the dis<br>asthmagens of<br>exposure to s<br>prevented. Wi<br>standards of of<br>substances th<br>exposure be r<br>to short-term<br>management<br>employees ex<br>occupational a<br>occupational a<br>surveillance.,<br>substances an<br>sensitisation to<br>and skin conta<br>Critical assess<br>asthma' as up<br>assessment h<br>'Sen' notation<br>which may ca | y sensitisers) can in<br>ss via an immunolog<br>become hyper-resp<br>yen to tiny quantities<br>in range in severity fi<br>sed to a sensitiser w<br>identify in advance<br>of Substances that can<br>from substances what<br>re-existing airway hy<br>sease themselves. The<br>prespiratory sensiti<br>ubstances that can<br>here this is not poss<br>control to prevent wo<br>hat can cause occup<br>reduced as low as is<br>peak concentrations<br>is being considered<br>sposed or liable to be<br>asthma and there sh<br>health professional of<br>Capable of causing<br>re those which: - are<br>oy inhalation'; or 'R4<br>act' or - are listed in<br>sments of the evide<br>bas shown to be a po<br>in the list of WELs h<br>use occupational as | bational asthma (also known<br>induce a state of specific airwa<br>gical, irritant or other mechan<br>onsive, further exposure to the<br>may cause respiratory sym<br>rom a runny nose to asthma.<br>vill become hyper-responsive<br>those who are likely to becom<br>can cause occupational asthma<br>ich may trigger the symptom<br>yper-responsiveness, but whi<br>The latter substances are not<br>sers., Wherever it is reasonal<br>cause occupational asthma s<br>bible, the primary aim is to ap<br>orkers from becoming hyper-<br>ational asthma, COSHH requ<br>a reasonably practicable. Acti<br>s should receive particular att<br>. Health surveillance is appro-<br>te exposed to a substance whould be appropriate consulta-<br>occupational asthma. The id<br>e assigned the risk phrase 'R<br>2/43: May cause sensitisation<br>nee for agents implicated in or<br>time, or any other substance<br>otential cause of occupational<br>has been assigned only to the<br>sthma. | ay hyper-<br>ism. Once the<br>ne substance,<br>ptoms. These<br>Not all workers<br>and it is<br>ne hyper-<br>na should be<br>so of asthma in<br>ch do not<br>classified<br>bly practicable,<br>should be<br>ply adequate<br>responsive. For<br>uires that<br>vities giving rise<br>ention when risk<br>opriate for all<br>ich may cause<br>ation with an<br>evel of<br>entified<br>42: May cause<br>n by inhalation<br>n 'Asthmagen?<br>occupational<br>which the risk<br>a asthma., The<br>ose substances |
| HDI oligor<br>isocyanur |           | 28182-81-2   | TWA   | 0.02 mg/m3<br>(as -NCO)  | GB EH40   |
|                         | formation | and respirator<br>responsivenes<br>airways have<br>sometimes ev<br>symptoms can<br>who are expo<br>impossible to<br>responsive. 5<br>distinguished<br>people with pr<br>include the dis<br>asthmagens of<br>exposure to s<br>prevented. W  | ry sensitisers) can in<br>ss via an immunolog<br>become hyper-resp<br>ven to tiny quantities<br>in range in severity fi<br>sed to a sensitiser w<br>identify in advance<br>54 Substances that of<br>from substances wh<br>re-existing airway hy<br>sease themselves. The<br>or respiratory sensiti<br>ubstances that can<br>here this is not poss   | pational asthma (also known<br>induce a state of specific airwa<br>gical, irritant or other mechan<br>onsive, further exposure to th<br>, may cause respiratory sym<br>rom a runny nose to asthma.<br>vill become hyper-responsive<br>those who are likely to becom<br>can cause occupational asthma<br>ich may trigger the symptom<br>yper-responsiveness, but whi<br>The latter substances are not<br>sers., Wherever it is reasona<br>cause occupational asthma s<br>bible, the primary aim is to ap<br>orkers from becoming hyper-   | ay hyper-<br>ism. Once the<br>ne substance,<br>ptoms. These<br>Not all workers<br>and it is<br>ne hyper-<br>na should be<br>s of asthma in<br>ch do not<br>classified<br>bly practicable,<br>should be<br>ply adequate  |

according to Regulation (EC) No. 1907/2006



| ersion<br>0 |            | vision Date:<br>02.2018   |   | SDS Number:<br>H53179  |  |
|-------------|------------|---|---|--|--|
|             |            | exposure be<br>to short-term<br>management<br>employees ex-<br>occupational<br>occupational<br>surveillance.,<br>substances a<br>sensitisation<br>and skin cont<br>Critical asses<br>asthma' as up<br>assessment h<br>'Sen' notation  | reduced as low as is<br>peak concentrations<br>is being considered<br>considered or liable to be<br>asthma and there sh<br>health professional of<br>Capable of causing<br>re those which: - and<br>by inhalation'; or 'R4<br>act' or - are listed in<br>sments of the evider<br>odated from time to the<br>nas shown to be a point | ational asthma, COSHH require<br>reasonably practicable. Active<br>should receive particular attra-<br>to the surveillance is appro-<br>e exposed to a substance whe<br>hould be appropriate consultan<br>over the degree of risk and le<br>occupational asthma. The id<br>e assigned the risk phrase 'R<br>2/43: May cause sensitisation<br>section C of HSE publication<br>ince for agents implicated in co-<br>time, or any other substance we<br>other tial cause of occupationan<br>has been assigned only to the<br>asthma | vities giving ris<br>ention when ri<br>priate for all<br>ich may cause<br>tion with an<br>vel of<br>entified<br>42: May cause<br>h by inhalation<br>'Asthmagen<br>which the risk<br>I asthma., The |
|             |            |   | STEL  | 0.07 mg/m3<br>(as -NCO)  | GB EH40  |
|             | nformation | Substances that can cause occupational asthma (also known as asthmagens<br>and respiratory sensitisers) can induce a state of specific airway hyper-<br>responsiveness via an immunological, irritant or other mechanism. Once the<br>airways have become hyper-responsive, further exposure to the substance,<br>sometimes even to tiny quantities, may cause respiratory symptoms. These<br>symptoms can range in severity from a runny nose to asthma. Not all workers<br>who are exposed to a sensitiser will become hyper-responsive and it is<br>impossible to identify in advance those who are likely to become hyper-<br>responsive. 54 Substances that can cause occupational asthma should be<br>distinguished from substances which may trigger the symptoms of asthma in<br>people with pre-existing airway hyper-responsiveness, but which do not<br>include the disease themselves. The latter substances are not classified<br>asthmagens or respiratory sensitisers., Wherever it is reasonably practicable,<br>exposure to substances that can cause occupational asthma should be<br>prevented. Where this is not possible, the primary aim is to apply adequate<br>standards of control to prevent workers from becoming hyper-responsive. For<br>substances that can cause occupational asthma, COSHH requires that<br>exposure be reduced as low as is reasonably practicable. Activities giving rise<br>to short-term peak concentrations should receive particular attention when risk<br>management is being considered. Health surveillance is appropriate for all<br>employees exposed or liable to be exposed to a substance which may cause<br>occupational health professional over the degree of risk and level of<br>surveillance., Capable of causing occupational asthma. The identified<br>substances are those which: - are assigned the risk phrase 'R42: May cause<br>sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation<br>and skin contact' or - are listed in section C of HSE publication 'Asthmagen?<br>Critical assessments of the evidence for agents implicated in occupational<br>asthma' as updated from time to time, or any othe |   |  |  |
| n-butyl ad  | cetate     | 123-86-4  | TWA   | 150 ppm<br>724 mg/m3   | GB EH40  |
|             |            |   | STEL  | 200 ppm<br>966 mg/m3   | GB EH40  |

according to Regulation (EC) No. 1907/2006



|  | vision Date:<br>02.2018   |  | SDS Number:<br>H53179   |              |  |
|--|---|--|---|--------------|--|
| 2-methoxy-1-<br>methylethyl<br>acetate | 108-65-6  | TWA  | 50 ppm<br>275 mg/m3   | 2000/39/E0   |  |
| Further information                    | Further information Identifies the possibility of significant uptake through the skin, Indicativ  |  |   |              |  |
|  |   | STEL   | 100 ppm<br>550 mg/m3  | 2000/39/E0   |  |
| Further information                    | Identifies the  | possibility of signific                            | ant uptake through the skin,  | Indicative   |  |
|  |   | TWA  | 50 ppm<br>274 mg/m3   | GB EH40      |  |
| Further information                    |   |  | he assigned substances are<br>psorption will lead to systemic               |              |  |
|  |   | STEL   | 100 ppm<br>548 mg/m3  | GB EH40      |  |
| Further information                    |   |  | he assigned substances are<br>osorption will lead to systemic               |              |  |
| hexamethylene-di-<br>isocyanate        | 822-06-0  | TWA  | 0.02 mg/m3<br>(as -NCO)   | GB EH40      |  |
|  | airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma. |  |   |              |  |
|  |   | in the list of WELs<br>use occupational as<br>STEL | 0.07 mg/m3  | ose substanc |  |
| Further information                    |   |  | (as -NCO)<br>pational asthma (also known<br>nduce a state of specific airwa |              |  |

according to Regulation (EC) No. 1907/2006



## K36

| Version | Revision Date:   | SDS Number:   |
|---------|--|---|
| 2.0     | 19.02.2018   | H53179  |
|         | airways have become hyper-resp<br>sometimes even to tiny quantities<br>symptoms can range in severity f<br>who are exposed to a sensitiser v<br>impossible to identify in advance<br>responsive. 54 Substances that<br>distinguished from substances w<br>people with pre-existing airway h<br>include the disease themselves.<br>asthmagens or respiratory sensit<br>exposure to substances that can<br>prevented. Where this is not poss<br>standards of control to prevent w<br>substances that can cause occup<br>exposure be reduced as low as is<br>to short-term peak concentrations<br>management is being considered<br>employees exposed or liable to b<br>occupational asthma and there sl<br>occupational health professional<br>surveillance., Capable of causing<br>substances are those which: - ar<br>sensitisation by inhalation'; or 'R4<br>and skin contact' or - are listed in<br>Critical assessments of the evide<br>asthma' as updated from time to<br>assessment has shown to be a p | gical, irritant or other mechanism. Once the<br>bonsive, further exposure to the substance,<br>s, may cause respiratory symptoms. These<br>from a runny nose to asthma. Not all workers<br>will become hyper-responsive and it is<br>those who are likely to become hyper-<br>can cause occupational asthma should be<br>hich may trigger the symptoms of asthma in<br>yper-responsiveness, but which do not<br>The latter substances are not classified<br>isers., Wherever it is reasonably practicable,<br>cause occupational asthma should be<br>sible, the primary aim is to apply adequate<br>orkers from becoming hyper-responsive. For<br>bational asthma, COSHH requires that<br>is reasonably practicable. Activities giving rise<br>is should receive particular attention when risk<br>d. Health surveillance is appropriate for all<br>be exposed to a substance which may cause<br>hould be appropriate consultation with an<br>over the degree of risk and level of<br>g occupational asthma. The identified<br>re assigned the risk phrase 'R42: May cause<br>42/43: May cause sensitisation by inhalation<br>in section C of HSE publication 'Asthmagen?<br>ence for agents implicated in occupational<br>time, or any other substance which the risk<br>otential cause of occupational asthma., The<br>has been assigned only to those substances<br>sthma. |

## Biological occupational exposure limits

| Substance name                  | CAS-No.    | Control parameters                                      | Sampling time | Basis          |
|---------------------------------|------------|---|---------------|----------------|
| HDI oligomers,<br>isocyanurate  | 28182-81-2 | urinary diamine: 1<br>µmol/mol<br>creatinine<br>(Urine) | Post task     | GB EH40<br>BAT |
| hexamethylene-di-<br>isocyanate | 822-06-0   | urinary diamine: 1<br>µmol/mol<br>creatinine<br>(Urine) | Post task     | GB EH40<br>BAT |

## Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name                          | End Use | Exposure routes | Potential health effects      | Value       |
|---|---------|-----------------|-------------------------------|-------------|
| n-butyl acetate                         | Workers | Inhalation      | Long-term systemic<br>effects | 480 mg/m3   |
| 2-methoxy-1-<br>methylethyl acetate     | Workers | Inhalation      | Long-term systemic<br>effects | 275 mg/m3   |
| Low boiling point naphtha - unspecified | Workers | Inhalation      | Long-term systemic<br>effects | 608 mg/m3   |
| hexamethylene-di-                       | Workers | Inhalation      | Long-term local               | 0.035 mg/m3 |



# K36

| Version<br>2.0            | Revisio<br>19.02.2 | on Date:<br>2018 |        |   | S Number:<br>3179                               |         |
|---------------------------|--------------------|------------------|--------|---|---|---------|
| isocyanate                |                    |                  |        |   | effects   |         |
| 8.2 Exposure cor          | ntrols             |                  |        |   |   |         |
| Personal protective equip |                    | quipment         | :      |   |   |         |
| Eye protectio             | n                  | :                |        | ash bottle with pure<br>r fitting safety goggle |   |         |
| Hand protect<br>Material  | ion                | :                | Solver | nt-resistant gloves                             |   |         |
| Skin and bod              | y protectio        | n :              | Choos  |   | ccording to the amoun<br>erous substance at the |         |
| Respiratory p             | rotection          | :                |        | case of vapour form<br>ved filter.              | ation use a respirator                          | with an |

# **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

| Appearance  | : | • •  |
|---|---|--|
| Colour  | : | colourless   |
| Odour   | : | characteristic                                     |
| рН  | : | Not applicable                                     |
| Melting point/range                                 | : | not determined                                     |
| Boiling point/boiling range                         | : | not determined                                     |
| Flash point   | : | 29 °C<br>Method: ISO 1523, closed cup<br>Setaflash |
| Upper explosion limit / Upper<br>flammability limit | : | not determined                                     |
| Lower explosion limit / Lower<br>flammability limit | : | not determined                                     |
| Vapour pressure                                     | : | not determined                                     |
| Density   | • | 1.066 g/cm3 (20 °C)<br>Method: ISO 2811-1          |
| Solubility(ies)<br>Water solubility                 | : | immiscible   |
| Viscosity   |   |  |



| Version<br>2.0                     | Revision Da<br>19.02.2018                | te:    | SDS Number:<br>H53179  |
|------------------------------------|--|--------|--|
| Viscosi                            | ty, dynamic                              | :      | 49 mPa.s (20 °C)<br>Method: ISO 2555   |
| Viscosi                            | ty, kinematic                            | :      | > 20 mm2/s (40 °C)   |
| Oxidizing                          | properties                               | :      | No data available  |
| 9.2 Other info<br>No data av       |  |        |  |
| SECTION 10:                        | Stability and re                         | acti   | vity   |
| 10.1 Reactivity<br>No decom        | /<br>position if stored a                | nd ap  | oplied as directed.  |
| 10.2 Chemical<br>No decom          | <b>stability</b><br>position if stored a | nd ap  | oplied as directed.  |
|                                    | y of hazardous re                        | actio  |  |
| Hazardous                          | s reactions                              | :      | No decomposition if stored and applied as directed.  |
|                                    |  |        | Vapours may form explosive mixture with air.   |
| 10.4 Conditior                     | ns to avoid                              |        |  |
| Conditions                         | s to avoid                               | :      | Heat, flames and sparks.   |
| 10.5 Incompat                      | ible materials                           |        |  |
| Materials t                        |  | :      | No data available  |
| <b>10.6 Hazardou</b><br>No data av | is decomposition                         | proc   | lucts  |
| SECTION 11:                        | Toxicological in                         | nfor   | mation   |
| 11.1 Information                   | on on toxicologica                       | al eff | fects  |
| Acute tox                          | _  |        |  |
| Product:                           | -  |        |  |
|                                    | alation toxicity                         | :      | Acute toxicity estimate: 10 - 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method |
|                                    |  |        | Acute toxicity estimate: 15.31 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method   |



| Version<br>2.0   | Revision Date:<br>19.02.2018 | SDS Number:<br>H53179   |
|------------------|------------------------------|---|
| Components:      |                              |   |
| HDI oligomers,   | , isocyanurate:              |   |
| Acute oral toxic | ity :                        | LD50 Oral (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhalation | n toxicity :                 | LC50 (Rat): > 0.543 mg/l<br>Exposure time: 4 h<br>Method: OECD Test Guideline 403                         |
| Acute dermal to  | exicity :                    | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402  |
| n-butyl acetate  | ):                           |   |
| Acute oral toxic |                              | LD50 Oral (Rat): 10,768 mg/kg<br>Method: OECD Test Guideline 401  |
| Acute inhalation | n toxicity :                 | LC50 (Rat): 23.4 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Acute dermal to  | exicity :                    | LD50 (Rabbit): 17,600 mg/kg<br>Method: OECD Test Guideline 402  |
| Solvent naphth   | na (petroleum), li           | ght arom.:  |
| Acute oral toxic | -                            | LD50 Oral (Rat): 3,592 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhalation | toxicity :                   | LC50 (Rat): > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour                                    |
| Acute dermal to  | ixicity :                    | LD50 (Rabbit): 3,160 mg/kg<br>Method: OECD Test Guideline 402   |
| hexamethylene    | -di-isocvanate:              |   |
| Acute oral toxic |                              | LD50 Oral (Rat): 738 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhalation | n toxicity :                 | LC50 (Rat): 0.31 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Acute dermal to  | exicity :                    | LD50 (Rabbit): 593 mg/kg<br>Method: OECD Test Guideline 402   |
| 2.methovy_1_m    | nethylethyl aceta            | te.   |
| Acute oral toxic |                              | LD50 Oral (Rat): 8,532 mg/kg<br>Method: OECD Test Guideline 401   |



# K36

| ersion<br>0   | Revision Da<br>19.02.2018                    | ate:   | SDS Number:<br>H53179  |  |
|---|--|--------|--|--|
| Acute inhal   | ation toxicity                               | :      | LC50 (Rat): 35.7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: gas<br>Method: OECD Test Guideline 403                             |  |
| Acute derm  | nal toxicity                                 | :      | LD50 (Rat): 5,000 mg/kg<br>Method: OECD Test Guideline 402   |  |
| Skin corro  | sion/irritation                              |        |  |  |
| <b>Product:</b><br>Remarks: E   | Based on available                           | e dat  | a, the classification criteria are not met.  |  |
| Serious ey  | ve damage/eye ir                             | ritati | on   |  |
| Product:<br>Remarks: Based on available data, the classification criteria are not met.    |  |        |  |  |
| Respiratory or skin sensitisation   |  |        |  |  |
| <u>Product:</u><br>Result: Ma   |  |        | by skin contact.   |  |
| Germ cell mutagenicity  |  |        |  |  |
| <u>Product:</u><br>Germ cell r<br>Assessmer   |  | :      | Based on available data, the classification criteria are not me  |  |
| Carcinoge   | nicity                                       |        |  |  |
| <b>.</b>  |  |        |  |  |
| <u>Product:</u><br>Carcinoger<br>Assessmer  |  | :      | Based on available data, the classification criteria are not me  |  |
| Carcinoger<br>Assessmer   |  | :      | Based on available data, the classification criteria are not me  |  |
| Carcinoger<br>Assessmer<br><b>Reproduct</b><br><u>Product:</u>                            | nt<br>t <b>ive toxicity</b><br>ve toxicity - | :      |  |  |
| Carcinoger<br>Assessmer<br><b>Reproduct</b><br><u>Product:</u><br>Reproducti<br>Assessmer | nt<br>t <b>ive toxicity</b><br>ve toxicity - | :      | Based on available data, the classification criteria are not me<br>Based on available data, the classification criteria are not me |  |

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.



# K36

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53179      |

## STOT - repeated exposure

### Product:

Remarks: Based on available data, the classification criteria are not met.

## Aspiration toxicity

### Product:

Based on available data, the classification criteria are not met.

### **Further information**

### Product:

Remarks: Based on available data, the classification criteria are not met.

# **SECTION 12: Ecological information**

### 12.1 Toxicity

## Components:

| HDI oligomers, isocyanurate                         |  |
|---|--|
| Toxicity to algae                                   | : EC50 (Algae): 370 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201   |
| n-butyl acetate:                                    |  |
| Toxicity to fish                                    | : LC50 (Fish): 18 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203   |
| Toxicity to daphnia and other aquatic invertebrates | <ul> <li>EC50 (Daphnia (water flea)): 32 mg/l</li> <li>Exposure time: 48 h</li> <li>Method: OECD Test Guideline 202</li> </ul> |
| Toxicity to algae                                   | : EC50 (Algae): 675 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201   |
| Solvent naphtha (petroleum)                         | , light arom.:   |
| Toxicity to fish                                    | : LC50 (Fish): 9.2 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203  |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia (water flea)): 3.2 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202                              |
| Toxicity to algae                                   | : EC50 (Algae): 2.9 mg/l<br>Exposure time: 72 h  |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0                       | Revision Date<br>19.02.2018              | e:  | SDS Number:<br>H53179  |
|--------------------------------------|--|-----|--|
|                                      |  |     | Method: OECD Test Guideline 201  |
| 2-methox                             | cy-1-methylethyl ac                      | eta | te:  |
| Toxicity to                          |  | :   | LC50 (Fish): 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203  |
|                                      | o daphnia and other<br>wertebrates       | :   | EC50 (Daphnia (water flea)): 408 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202  |
| Toxicity to                          | o algae                                  | :   | EC50 (Algae): 1,000 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201   |
| 12.2 Persister<br>No data a          | n <b>ce and degradabil</b> i<br>wailable | ity |  |
| <b>12.3 Bioaccur</b><br>No data a    | <b>mulative potential</b><br>available   |     |  |
| <b>12.4 Mobility</b> i<br>No data a  |  |     |  |
| 12.5 Results o                       | of PBT and vPvB as                       | se  | ssment   |
| Product:<br>Assessme                 |  | :   | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher                      |
| 12.6 Other ad                        | verse effects                            |     |  |
| Product:<br>Additional<br>informatic | l ecological<br>on                       | :   | An environmental hazard cannot be excluded in the event of<br>unprofessional handling or disposal.<br>Harmful to aquatic life with long lasting effects.   |
| SECTION 13                           | : Disposal consid                        | era | ations   |
| 13.1 Waste tre                       | eatment methods                          |     |  |
| Product                              |  | :   | The product should not be allowed to enter drains, water<br>courses or the soil.<br>Do not contaminate ponds, waterways or ditches with<br>chemical or used container.<br>Send to a licensed waste management company. |
| Contonsis                            |  |     | French and since a set of a  |

| Contaminated packaging | : | Empty remaining contents.       |
|------------------------|---|---------------------------------|
|                        |   | Dispose of as unused product.   |
|                        |   | Do not re-use empty containers. |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0   | Revision Date: 19.02.2018           | SDS Number:<br>H53179                                   |
|--|-------------------------------------|---|
|  |                                     | Do not burn, or use a cutting torch on, the empty drum. |
| SECTION 14:  | Transport informa                   | tion  |
| 14.1 UN numbe  | er                                  |   |
| IMDG   | :                                   | UN 1263   |
| IATA (Carg   | <b>jo)</b> :                        | UN 1263   |
| 14.2 UN proper   | shipping name                       |   |
| ADR  | :                                   | PAINT RELATED MATERIAL                                  |
| IMDG   | :                                   | PAINT RELATED MATERIAL                                  |
| IATA (Carg   | <b>jo)</b> :                        | Paint related material                                  |
| 14.3 Transport   | hazard class(es)                    |   |
| ADR  | :                                   | 3   |
| IMDG   | :                                   | 3   |
| IATA (Carg   | <b>jo)</b> :                        | 3   |
| 14.4 Packing gr  | roup                                |   |
| ADR<br>Packing gro<br>Classificatio<br>Hazard Ider<br>Labels |                                     | III<br>F1<br>30<br>3                                    |
| IMDG<br>Packing gro<br>Labels<br>EmS Code                    | :                                   | 3<br>III<br>3<br>F-E, <u>S-E</u>                        |
| aircraft)  | struction (cargo : struction (LQ) : | 366<br>Y344<br>III<br>Flammable Liquids                 |
| 14.5 Environme   | ental hazards                       |   |
| <b>ADR</b><br>Environmer                                     | ntally hazardous :                  | no  |
| <b>IMDG</b><br>Marine poll                                   | utant :                             | no  |
| 14.6 Special pro<br>Not applica                              | ecautions for user                  |   |



# K36

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53179      |

### **SECTION 15: Regulatory information**

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| P5c | FLAMMABLE LIQUIDS   | Quantity 1<br>5,000 t | Quantity 2<br>50,000 t |
|-----|---|-----------------------|------------------------|
| 34  | Petroleum products: (a)<br>gasolines and naphthas,<br>(b) kerosenes (including jet<br>fuels), (c) gas oils<br>(including diesel fuels,<br>home heating oils and gas<br>oil blending streams),(d)<br>heavy fuel oils (e)<br>alternative fuels serving the<br>same purposes and with<br>similar properties as<br>regards flammability and<br>environmental hazards as<br>the products referred to in<br>points (a) to (d) | 2,500 t               | 25,000 t               |
|     |   |                       |                        |

### Other regulations:

The product is classified and labelled in accordance with EC directives or respective national laws.

### 15.2 Chemical safety assessment

The supplier has not carried out evaluation of chemical safety.

## **SECTION 16: Other information**

#### Full text of H-Statements

| H226 : | Flammable liquid and vapour.   |
|--------|--|
| H302 : | Harmful if swallowed.  |
| H304 : | May be fatal if swallowed and enters airways.                              |
| H315 : | Causes skin irritation.  |
| H317 : | May cause an allergic skin reaction.                                       |
| H319 : | Causes serious eye irritation.   |
| H330 : | Fatal if inhaled.  |
| H332 : | Harmful if inhaled.  |
| H334 : | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 : | May cause respiratory irritation.  |
| H336 : | May cause drowsiness or dizziness.   |
| H411 : | Toxic to aquatic life with long lasting effects.                           |

#### Full text of other abbreviations

| Acute Tox. | : Acute toxicity |
|------------|------------------|
|------------|------------------|

according to Regulation (EC) No. 1907/2006



K36

| Version<br>2.0   | Revision Date: 19.02.2018 | SDS Number:<br>H53179  |
|--|---------------------------|--|
| Aquatic Chronic<br>Asp. Tox.<br>Eye Irrit.   |                           | Chronic aquatic toxicity<br>Aspiration hazard<br>Eye irritation  |
| Flam. Liq.<br>Resp. Sens.<br>Skin Irrit.<br>Skin Sens.<br>STOT SE<br>2000/39/EC                            |                           | Flammable liquids<br>Respiratory sensitisation<br>Skin irritation<br>Skin sensitisation<br>Specific target organ toxicity - single exposure<br>Europe. Commission Directive 2000/39/EC establishing a first<br>list of indicative occupational exposure limit values |
| GB EH40<br>GB EH40 BAT<br>2000/39/EC / T\<br>2000/39/EC / S <sup>-</sup><br>GB EH40 / TWA<br>GB EH40 / STE | TEL :                     | UK. EH40 WEL - Workplace Exposure Limits<br>UK. Biological monitoring guidance values<br>Limit Value - eight hours<br>Short term exposure limit<br>Long-term exposure limit (8-hour TWA reference period)<br>Short-term exposure limit (15-minute reference period)  |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID -Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Sources of key data used to : http://echa.europa.eu, http://eur-lex.europa.eu compile the Safety Data Sheet



# K36

| Version<br>2.0  | Revision Date:<br>19.02.2018 | SDS Number:<br>H53179               |
|-----------------|------------------------------|-------------------------------------|
| Classification  | of the mixture:              | Classification procedure:           |
| Flam. Liq. 3    | H226                         | Based on product data or assessment |
| Acute Tox. 4    | H332                         | Calculation method                  |
| Skin Sens. 1    | H317                         | Based on product data or assessment |
| STOT SE 3       | H336                         | Based on product data or assessment |
| STOT SE 3       | H335                         | Based on product data or assessment |
| Aquatic Chronic | c 3 H412                     | Calculation method                  |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN



# K38

|  | SDS Number:<br>H53212 |
|--|-----------------------|
|--|-----------------------|

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

on use

Trade name : K38

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

only.

| Use of the<br>Substance/Mixture | : | Catalyst  |
|---------------------------------|---|---|
| Recommended restrictions        | : | For use in industrial installations or professional treatment |

### 1.3 Details of the supplier of the safety data sheet

| Company  | : | Roberlo s.a.<br>Ctra. Nacional II, Km. 706,5<br>17457 Riudellots de la Selva<br>Spain |
|--|---|---|
| Telephone  | : | +34972478060  |
| Telefax  | : | +34972477394  |
| E-mail address of person responsible for the SDS | : | msds@roberlo.com  |

### 1.4 Emergency telephone number

+34 972 478060 (8:00-12:45 / 14:15-17:30 h) ROBERLO (Spain) (GMT + 1:00)

# **SECTION 2: Hazards identification**

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

| Flammable liquids, Category 3  | H226: Flammable liquid and vapour.              |
|--|---|
| Acute toxicity, Category 4   | H332: Harmful if inhaled.                       |
| Skin sensitisation, Category 1   | H317: May cause an allergic skin reaction.      |
| Specific target organ toxicity - single<br>exposure, Category 3, Central nervous<br>system | H336: May cause drowsiness or dizziness.        |
| Specific target organ toxicity - single exposure, Category 3, Respiratory system           | H335: May cause respiratory irritation.         |
| Chronic aquatic toxicity, Category 3   | H412: Harmful to aquatic life with long lasting |



# K38

| Version<br>2.0                    | Revision Date:<br>19.02.2018 | SDS Number:<br>H53212  |
|-----------------------------------|------------------------------|--|
|                                   |                              | effects.   |
| 2.2 Label elements                |                              |  |
| Labelling (REG<br>Hazard pictogra | GULATION (EC)<br>ams :       | No 1272/2008)  |
| Signal word                       | :                            | Warning  |
| Hazard stateme                    | ents :                       | <ul> <li>H226 Flammable liquid and vapour.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H332 Harmful if inhaled.</li> <li>H335 May cause respiratory irritation.</li> <li>H336 May cause drowsiness or dizziness.</li> <li>H412 Harmful to aquatic life with long lasting effects.</li> </ul> |
| Precautionary s                   | tatements :                  | Prevention:  |
|                                   |                              | <ul> <li>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</li> <li>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</li> <li>P260 Do not breathe vapours.</li> <li>P260 Do not breathe spray.</li> </ul>                |
|                                   |                              | <b>Response:</b><br>P303 + P361 + P353 IF ON SKIN (or hair): Take off<br>immediately all contaminated clothing. Rinse skin with water.   |
|                                   |                              | <b>Disposal:</b><br>P501 Dispose of contents/ container to an approved waste disposal plant.   |
| Hazardous com                     | ponents which n              | nust be listed on the label:   |

HDI oligomers, isocyanurate n-butyl acetate dibutyltin dilaurate hexamethylene-di-isocyanate

### **Additional Labelling**

EUH204 Contains isocyanates. May produce an allergic reaction.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## **SECTION 3: Composition/information on ingredients**

## 3.2 Mixtures



# K38

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53212      |

Chemical nature : Paint

### Hazardous components

| Chemical name                                | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number     | Classification   | Concentration<br>(% w/w) |
|--|---|--|--------------------------|
| HDI oligomers, isocyanurate                  | 28182-81-2<br>500-060-2<br>01-2119485796-17               | Acute Tox. 4; H332<br>Skin Sens. 1; H317<br>STOT SE 3; H335  | >= 50 - < 70             |
| n-butyl acetate                              | 123-86-4<br>204-658-1<br>607-025-00-1<br>01-2119485493-29 | Flam. Liq. 3; H226<br>STOT SE 3; H336  | >= 10 - < 20             |
| Solvent naphtha (petroleum), light arom.     | 64742-95-6<br>265-199-0<br>649-356-00-4                   | Flam. Liq. 3; H226<br>STOT SE 3; H335<br>STOT SE 3; H336<br>Asp. Tox. 1; H304<br>Aquatic Chronic 2;<br>H411  | >= 2.5 - < 10            |
| dibutyltin dilaurate                         | 77-58-7<br>201-039-8<br>01-2119496068-27                  | Muta. 2; H341<br>Repr. 1B; H360FD<br>STOT SE 1; H370<br>STOT RE 1; H372<br>Skin Corr. 1C; H314<br>Aquatic Acute 1;<br>H400<br>Aquatic Chronic 1;<br>H410<br>Skin Sens. 1; H317 | >= 0.25 - < 0.3          |
| hexamethylene-di-isocyanate                  | 822-06-0<br>212-485-8<br>615-011-00-1<br>01-2119457571-37 | Acute Tox. 4; H302<br>Acute Tox. 1; H330<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Resp. Sens. 1; H334<br>Skin Sens. 1; H317<br>STOT SE 3; H335                          | >= 0.1 - < 0.5           |
| Substances with a workplace exposure limit : |   |  |                          |
| 2-methoxy-1-methylethyl acetate              | 108-65-6<br>203-603-9<br>607-195-00-7<br>01-2119475791-29 | Flam. Liq. 3; H226   | >= 1 - < 10              |

For explanation of abbreviations see section 16.

:

# **SECTION 4: First aid measures**

## 4.1 Description of first aid measures

General advice

Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.



# K38

| Version<br>2.0 | Revision Date:<br>19.02.2018     | SDS Number:<br>H53212   |  |
|----------------|----------------------------------|---|--|
| lf inha        | aled :                           | Consult a physician after significant exposure.<br>If unconscious, place in recovery position and seek medical<br>advice.   |  |
| In cas         | e of skin contact :              | If skin irritation persists, call a physician.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes.  |  |
| In cas         | se of eye contact :              | Flush eyes with water as a precaution.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.   |  |
| lf swa         | Ilowed :                         | Keep respiratory tract clear.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.<br>Take victim immediately to hospital.                       |  |
| 4.2 Most i     | mportant symptoms and            | effects, both acute and delayed   |  |
| Symp           | toms :                           | Inhalation may provoke the following symptoms:<br>Headache<br>Vertigo<br>Fatigue<br>Skin contact may provoke the following symptoms:<br>Redness<br>Ingestion may provoke the following symptoms:<br>Abdominal pain<br>Vomiting<br>Diarrhoea |  |
| 4 3 Indica     | tion of any immediate m          | edical attention and special treatment needed   |  |
| Treatr         | -                                | In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.  |  |
| SECTION        | SECTION 5: Firefighting measures |   |  |
| 5.1 Exting     | uishing media                    |   |  |
| Suitat         | ble extinguishing media :        | Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>Dry chemical  |  |
| Unsui<br>media |                                  | High volume water jet   |  |
| 5.2 Specia     | al hazards arising from th       | ne substance or mixture   |  |
| -              | fic hazards during :             |   |  |



# K38

| Ver<br>2.0 | sion  | Revision Date<br>19.02.2018 | e: | SDS Number:<br>H53212  |
|------------|---|-----------------------------|----|--|
|            | Hazardous com<br>products                     | bustion                     | :  | No hazardous combustion products are known   |
| 5.3        | Advice for firefi                             | ghters                      |    |  |
|            | Special protective equipment for firefighters |                             | :  | In the event of fire, wear self-contained breathing apparatus.   |
|            | Further information                           | tion                        | :  | Collect contaminated fire extinguishing water separately. This<br>must not be discharged into drains.<br>Fire residues and contaminated fire extinguishing water must<br>be disposed of in accordance with local regulations.<br>For safety reasons in case of fire, cans should be stored<br>separately in closed containments.<br>Use a water spray to cool fully closed containers. |

# **SECTION 6: Accidental release measures**

| 6.1 Personal precautions, protective equipment and emergency procedures |  |
|---|--|
|---|--|

| Personal precautions          | : | Use personal protective equipment.<br>Ensure adequate ventilation.<br>Remove all sources of ignition.<br>Evacuate personnel to safe areas.<br>Beware of vapours accumulating to form explosive<br>concentrations. Vapours can accumulate in low areas. |
|-------------------------------|---|--|
| 6.2 Environmental precautions |   |  |
| Environmental precautions     | : | Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.   |

# respective authorities.

| 6.3 Methods and material for containment and cleaning up |   |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|
| Methods for cleaning up                                  | : | Contain spillage, and then collect with non-combustible<br>absorbent material, (e.g. sand, earth, diatomaceous earth,<br>vermiculite) and place in container for disposal according to<br>local / national regulations (see section 13). |  |  |  |  |  |

If the product contaminates rivers and lakes or drains inform

## 6.4 Reference to other sections

For contact information in case of emergency, see section 1. For information on safe handling, see section 7. For exposure controls and personal protection measures, see section 8. For subsequent waste disposal, follow the recommendations in section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

| Advice on safe handling | <ul> <li>Avoid formation of aerosol.</li> <li>Do not breathe vapours/dust.</li> <li>Avoid exposure - obtain special instructions before use.</li> <li>Avoid contact with skin and eyes.</li> </ul> |
|-------------------------|--|
|                         | Avolu contact with skin and eyes.  |

according to Regulation (EC) No. 1907/2006



# K38

| Vers<br>2.0 | ion Revision Da<br>19.02.2018                   |       | SDS Number:<br>H53212  |
|-------------|---|-------|--|
|             |   |       | For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the<br>application area.<br>Take precautionary measures against static discharges.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Open drum carefully as content may be under pressure.<br>Dispose of rinse water in accordance with local and national<br>regulations.<br>Persons susceptible to skin sensitisation problems or asthma,<br>allergies, chronic or recurrent respiratory disease should not<br>be employed in any process in which this mixture is being<br>used. |
|             | Advice on protection against fire and explosion | : :   | Do not spray on a naked flame or any incandescent material.<br>Take necessary action to avoid static electricity discharge<br>(which might cause ignition of organic vapours). Keep away<br>from open flames, hot surfaces and sources of ignition.  |
|             | Hygiene measures                                | :     | When using do not eat or drink. When using do not smoke.<br>Wash hands before breaks and at the end of workday.  |
| 7.2 (       | Conditions for safe storage                     | , inc | luding any incompatibilities   |
|             | Requirements for storage areas and containers   | :     | No smoking. Keep container tightly closed in a dry and well-<br>ventilated place. Containers which are opened must be<br>carefully resealed and kept upright to prevent leakage.<br>Observe label precautions. Electrical installations / working<br>materials must comply with the technological safety<br>standards.   |
|             | Storage period                                  | :     | 12 Months  |
|             | Further information on storage stability        | :     | No decomposition if stored and applied as directed.  |
| 7.3 \$      | Specific end use(s)                             |       |  |
|             | Specific use(s)                                 | :     | For the use of this product do not exist particular recommendations apart from that already indicated.   |

# **SECTION 8: Exposure controls/personal protection**

# 8.1 Control parameters

### Occupational Exposure Limits

| Components                     | CAS-No.                     | Value type (Form of exposure)  | Control parameters      | Basis   |  |  |  |
|--------------------------------|-----------------------------|--|-------------------------|---------|--|--|--|
| HDI oligomers,<br>isocyanurate | 28182-81-2                  | TWA  | 0.02 mg/m3<br>(as -NCO) | GB EH40 |  |  |  |
| Further information            | and respirator responsivene | Substances that can cause occupational asthma (also known as asthmagens<br>and respiratory sensitisers) can induce a state of specific airway hyper-<br>responsiveness via an immunological, irritant or other mechanism. Once the<br>airways have become hyper-responsive, further exposure to the substance, |                         |         |  |  |  |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0 | Revision Date:<br>19.02.2018 |  | SDS Number:<br>H53212   |  |  |  |
|----------------|------------------------------|--|---|--|--|--|
|                |                              | symptoms ca<br>who are expo<br>impossible to<br>responsive. If<br>distinguished<br>people with p<br>include the di<br>asthmagens of<br>exposure to s<br>prevented. W<br>standards of<br>substances th<br>exposure be<br>to short-term<br>management<br>employees ex<br>occupational<br>occupational<br>surveillance.,<br>substances a<br>sensitisation<br>and skin cont<br>Critical asses<br>asthma' as up<br>assessment b | an range in severit<br>based to a sensitise<br>o identify in advan-<br>54 Substances that<br>from substances<br>pre-existing airway<br>isease themselve<br>or respiratory sen<br>substances that ca<br>/here this is not por<br>control to prevent<br>hat can cause occ<br>reduced as low as<br>peak concentration<br>is being consider<br>xposed or liable to<br>asthma and there<br>health profession<br>, Capable of causi<br>are those which: -<br>by inhalation'; or '<br>tact' or - are listed<br>aster from time | http://www.comment.com |  |  |
|                |                              | which may ca   | ause occupational   | 0.07 mg/m3   | GB EH40  |  |
| Further in     | nformation                   | and respirato<br>responsivene<br>airways have<br>sometimes ev<br>symptoms ca<br>who are expo<br>impossible to<br>responsive. If<br>distinguished<br>people with p<br>include the di<br>asthmagens of<br>exposure to s<br>prevented. W<br>standards of<br>substances th<br>exposure be<br>to short-term<br>management<br>employees ex<br>occupational<br>occupational   | even sensitisers) can<br>ess via an immuno<br>e become hyper-re-<br>ven to tiny quantit<br>an range in severit<br>osed to a sensitise<br>o identify in advan-<br>54 Substances that<br>from substances<br>pre-existing airway<br>isease themselve<br>or respiratory sen<br>substances that ca<br>/here this is not por<br>control to prevent<br>hat can cause occor<br>reduced as low as<br>peak concentration<br>t is being consider<br>xposed or liable to<br>asthma and there<br>health profession                   | (as -NCO)<br>cupational asthma (also<br>in induce a state of specific<br>ological, irritant or other r<br>responsive, further exposi-<br>ies, may cause respirator<br>y from a runny nose to a<br>er will become hyper-resp<br>ce those who are likely to<br>at can cause occupation<br>which may trigger the sy<br>hyper-responsiveness,<br>s. The latter substances<br>sitisers., Wherever it is r<br>an cause occupational as<br>possible, the primary aim<br>workers from becoming<br>supational asthma, COSI<br>is reasonably practicab<br>ons should receive partici-<br>ted. Health surveillance i<br>o be exposed to a substa-<br>e should be appropriate of<br>al over the degree of risk-<br>ng occupational asthma.   | fic airway hyper-<br>mechanism. Once the<br>ure to the substance,<br>ory symptoms. These<br>asthma. Not all workers<br>ponsive and it is<br>o become hyper-<br>al asthma should be<br>ymptoms of asthma in<br>but which do not<br>are not classified<br>easonably practicable,<br>sthma should be<br>is to apply adequate<br>hyper-responsive. For<br>HH requires that<br>ole. Activities giving rise<br>cular attention when risk<br>is appropriate for all<br>ance which may cause<br>consultation with an<br>k and level of |  |

according to Regulation (EC) No. 1907/2006



|  | vision Date:<br>02.2018   |  | SDS Number:<br>H53212  |   |  |  |
|--|---|--|--|---|--|--|
|  | sensitisation<br>and skin con<br>Critical asses<br>asthma' as u<br>assessment<br>'Sen' notation   | by inhalation'; or<br>tact' or - are list<br>ssments of the e<br>pdated from tim<br>has shown to be  | - are assigned the risk phr<br>r 'R42/43: May cause sensi<br>ed in section C of HSE pub<br>widence for agents implicat<br>e to time, or any other subs<br>a potential cause of occup<br>ELs has been assigned only   | itisation by inhalatic<br>lication 'Asthmager<br>ed in occupational<br>tance which the rist<br>pational asthma., Th   |  |  |
| n-butyl acetate                        | 123-86-4  | TWA  | 150 ppm<br>724 mg/m3   | GB EH40   |  |  |
|  |   | STEL   | 200 ppm<br>966 mg/m3   | GB EH40   |  |  |
| 2-methoxy-1-<br>methylethyl<br>acetate | 108-65-6  | TWA  | 50 ppm<br>275 mg/m3  | 2000/39/E0  |  |  |
| Further information                    | Identifies the  | possibility of sig   | nificant uptake through the  | skin, Indicative  |  |  |
|  |   | STEL   | 100 ppm<br>550 mg/m3   | 2000/39/E0  |  |  |
| Further information                    | Identifies the  | possibility of sig   | nificant uptake through the  | skin, Indicative  |  |  |
|  |   | TWA  | 50 ppm<br>274 mg/m3  | GB EH40   |  |  |
| Further information                    |   | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.  |  |   |  |  |
|  |   | STEL   | 100 ppm<br>548 mg/m3   | GB EH40   |  |  |
| Further information                    |   |  | in. The assigned substance<br>al absorption will lead to sy  |   |  |  |
| dibutyltin dilaurate                   | 77-58-7   | TWA  | 0.1 mg/m3<br>(Tin)   | GB EH40   |  |  |
| Further information                    |   |  | in. The assigned substance<br>al absorption will lead to sy<br>0.2 mg/m3   |   |  |  |
|  |   |  | (Tin)  |   |  |  |
| Further information                    | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.   |  |  |   |  |  |
| hexamethylene-di-<br>isocyanate        | 822-06-0  | TWA  | 0.02 mg/m3<br>(as -NCO)  | GB EH40   |  |  |
| Further information                    | and respirator<br>responsiveners<br>airways have<br>sometimes e<br>symptoms ca<br>who are expo-<br>impossible to<br>responsive.<br>distinguished<br>people with p<br>include the d<br>asthmagens<br>exposure to<br>prevented. W | bry sensitisers) of<br>ess via an immu<br>e become hyper-<br>even to tiny quan<br>an range in seve<br>bosed to a sensiti<br>o identify in adva<br>54 Substances to<br>from substances<br>ore-existing airw<br>isease themselv<br>or respiratory se<br>substances that<br>/here this is not | accupational asthma (also k<br>can induce a state of specifi-<br>nological, irritant or other m<br>responsive, further exposu-<br>tities, may cause respirator<br>rity from a runny nose to as<br>ser will become hyper-resp-<br>ince those who are likely to<br>that can cause occupational<br>es which may trigger the syn<br>ay hyper-responsiveness, b<br>res. The latter substances a<br>ensitisers., Wherever it is re<br>can cause occupational ast<br>possible, the primary aim is<br>nt workers from becoming h | c airway hyper-<br>lechanism. Once the<br>re to the substance<br>y symptoms. These<br>sthma. Not all worke<br>onsive and it is<br>become hyper-<br>al asthma should be<br>mptoms of asthma is<br>but which do not<br>are not classified<br>easonably practicab<br>thma should be<br>s to apply adequate |  |  |

according to Regulation (EC) No. 1907/2006



| rsion<br>)              |           | vision Date:<br>02.2018   |  | SDS Number:<br>H53212  |  |
|-------------------------|-----------|---|--|--|--|
|                         |           | exposure ben<br>to short-term<br>management<br>employees ex-<br>occupational<br>surveillance.,<br>substances and<br>sensitisation hand skin conta<br>Critical asses<br>asthma' as up<br>assessment h<br>'Sen' notation  | reduced as low as is<br>peak concentrations<br>is being considered<br>cosed or liable to be<br>asthma and there sh<br>health professional of<br>Capable of causing<br>re those which: - an<br>by inhalation'; or 'R4<br>act' or - are listed in<br>sments of the evide<br>boated from time to the<br>has shown to be a point<br>in the list of WELs I  | ational asthma, COSHH req<br>reasonably practicable. Act<br>should receive particular at<br>. Health surveillance is appro-<br>e exposed to a substance whould be appropriate consult<br>over the degree of risk and le<br>occupational asthma. The id<br>e assigned the risk phrase 'F<br>2/43: May cause sensitisation<br>a section C of HSE publication<br>nce for agents implicated in<br>ime, or any other substance<br>been assigned only to the | ivities giving r<br>tention when<br>opriate for all<br>nich may caus<br>ation with an<br>evel of<br>dentified<br>R42: May caus<br>on by inhalatic<br>on by inhalatic<br>occupational<br>which the risl<br>al asthma., Th   |
|                         |           | which may ca  | use occupational as  | unma.<br>0.07 mg/m3<br>(as -NCO)   | GB EH40  |
|                         | formation | and respirator<br>responsivene<br>airways have<br>sometimes ev<br>symptoms ca<br>who are expo<br>impossible to<br>responsive. S<br>distinguished<br>people with p<br>include the di<br>asthmagens of<br>exposure to s<br>prevented. W<br>standards of of<br>substances th<br>exposure be n<br>to short-term<br>management<br>employees ex-<br>occupational<br>surveillance.,<br>substances and<br>sensitisation h<br>and skin cont<br>Critical asses<br>asthma' as up<br>assessment h<br>'Sen' notation<br>which may ca | ry sensitisers) can in<br>ss via an immunolog<br>become hyper-resp<br>ven to tiny quantities<br>n range in severity fi<br>sed to a sensitiser v<br>identify in advance<br>54 Substances that can<br>from substances wh<br>re-existing airway hy<br>sease themselves. To<br>r respiratory sensiti<br>ubstances that can<br>here this is not poss<br>control to prevent wo<br>hat can cause occup<br>reduced as low as is<br>peak concentrations<br>is being considered<br>cosed or liable to be<br>asthma and there sh<br>health professional of<br>Capable of causing<br>re those which: - are<br>by inhalation'; or 'R4<br>act' or - are listed in<br>sments of the evide<br>boated from time to the<br>as shown to be a po-<br>in the list of WELs house occupational as |  | ay hyper-<br>hism. Once the<br>he substance,<br>ptoms. These<br>Not all worke<br>e and it is<br>me hyper-<br>ma should be<br>ns of asthma i<br>ich do not<br>t classified<br>ably practicabl<br>should be<br>oply adequate<br>responsive. F<br>uires that<br>ivities giving ri<br>tention when r<br>opriate for all<br>hich may caus<br>ation with an<br>evel of<br>dentified<br>R42: May caus<br>on by inhalatio<br>n 'Asthmagen<br>occupational<br>which the risk<br>al asthma., Th<br>ose substance |
| HDI oligoi<br>isocyanur | ate       | 28182-81-2  | TWA  | 0.02 mg/m3<br>(as -NCO)  | GB EH40  |
| Further in              | formation |   |  | pational asthma (also known<br>induce a state of specific airw   |  |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0 | Revision Date:<br>19.02.2018   | SDS Number:<br>H53212  |  |  |  |  |  |
|----------------|--|--|--|--|--|--|--|
|                | airways haw<br>sometimes<br>symptoms of<br>who are exp<br>impossible t<br>responsive.<br>distinguishe<br>people with<br>include the<br>asthmagens<br>exposure to<br>prevented. V<br>standards of<br>substances<br>exposure be<br>to short-term<br>management<br>employees<br>occupational<br>surveillances<br>substances<br>sensitisation<br>and skin col<br>Critical asse<br>asthma' as<br>assessment | 192.2018 H53212 responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. 54 Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma should be prevented as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma, The 'Sen' notation in the list of WELs has been assigned only to those substances |  |  |  |  |  |
|                | Which hay  | cause occupational asthma. STEL 0.07 mg/m3 GB EH40 (as -NCO)   |  |  |  |  |  |
| Further in     | and respirat<br>responsiver<br>airways hav<br>sometimes<br>symptoms of<br>who are exp<br>impossible f<br>responsive.<br>distinguishe<br>people with<br>include the<br>asthmagens<br>exposure to<br>prevented. V<br>standards of<br>substances<br>exposure be<br>to short-term<br>management<br>employees   | that can cause occupational asthma (also known as asthmagens<br>tory sensitisers) can induce a state of specific airway hyper-<br>ness via an immunological, irritant or other mechanism. Once the<br>ve become hyper-responsive, further exposure to the substance,<br>even to tiny quantities, may cause respiratory symptoms. These<br>can range in severity from a runny nose to asthma. Not all workers<br>posed to a sensitiser will become hyper-responsive and it is<br>to identify in advance those who are likely to become hyper-<br>54 Substances that can cause occupational asthma should be<br>ed from substances which may trigger the symptoms of asthma in<br>pre-existing airway hyper-responsiveness, but which do not<br>disease themselves. The latter substances are not classified<br>s or respiratory sensitisers., Wherever it is reasonably practicable,<br>o substances that can cause occupational asthma should be<br>where this is not possible, the primary aim is to apply adequate<br>of control to prevent workers from becoming hyper-responsive. For<br>that can cause occupational asthma, COSHH requires that<br>e reduced as low as is reasonably practicable. Activities giving rise<br>in peak concentrations should receive particular attention when risk<br>ant is being considered. Health surveillance is appropriate for all<br>exposed or liable to be exposed to a substance which may cause<br>al asthma and there should be appropriate consultation with an   |  |  |  |  |  |

according to Regulation (EC) No. 1907/2006



| /ersion<br>2.0                     |           | ision Date:<br>)2.2018  |  | SDS Number:<br>H53212   |   |  |
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|                                    |           | surveillance.<br>substances a<br>sensitisation<br>and skin con<br>Critical asses<br>asthma' as u<br>assessment<br>'Sen' notation  | , Capable of causing<br>are those which: - an<br>by inhalation'; or 'R4<br>tact' or - are listed in<br>ssments of the evide<br>pdated from time to<br>has shown to be a p  | over the degree of risk and le<br>occupational asthma. The ic<br>re assigned the risk phrase 'F<br>42/43: May cause sensitisation<br>section C of HSE publication<br>ence for agents implicated in of<br>time, or any other substance<br>otential cause of occupationa<br>has been assigned only to the   | lentified<br>R42: May cause<br>In by inhalation<br>In 'Asthmagen?<br>Doccupational<br>which the risk<br>al asthma., The   |  |
| n-butyl ace                        | etate     | 123-86-4  | TWA  | 150 ppm<br>724 mg/m3  | GB EH40   |  |
|                                    |           |   | STEL   | 200 ppm<br>966 mg/m3  | GB EH40   |  |
| 2-methoxy<br>methylethy<br>acetate |           | 108-65-6  | TWA  | 50 ppm<br>275 mg/m3   | 2000/39/EC  |  |
| Further inf                        | ormation  | Identifies the  |  | cant uptake through the skin,   |   |  |
|                                    |           |   | STEL   | 100 ppm<br>550 mg/m3  | 2000/39/EC  |  |
| Further inf                        | ormation  | Identifies the  | , , ,  | cant uptake through the skin,   |   |  |
|                                    |           |   | TWA  | 50 ppm<br>274 mg/m3   | GB EH40   |  |
| Further inf                        | ormation  | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.   |  |   |   |  |
|                                    |           |   | STEL   | 100 ppm<br>548 mg/m3  | GB EH40   |  |
| Further inf                        | ormation  | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.   |  |   |   |  |
| dibutyltin c                       | dilaurate | 77-58-7   | TWA  | 0.1 mg/m3<br>(Tin)  | GB EH40   |  |
| Further inf                        | ormation  |   |  | he assigned substances are  |   |  |
|                                    |           | there are cor   | cerns that dermal a  | bsorption will lead to systemi  | c toxicity.<br>GB EH40  |  |
|                                    |           |   | SIEL   | 0.2 mg/m3<br>(Tin)  | GB EH40   |  |
| Further inf                        | ormation  |   |  | he assigned substances are bsorption will lead to systemi   |   |  |
| hexamethy<br>isocyanate            |           | 822-06-0  | TWA  | 0.02 mg/m3<br>(as -NCO)   | GB EH40   |  |
| Further inf                        | ormation  | and respirator<br>responsivene<br>airways have<br>sometimes e<br>symptoms ca<br>who are expo<br>impossible to<br>responsive.<br>distinguished<br>people with p<br>include the d<br>asthmagens | bry sensitisers) can in<br>ess via an immunolo<br>e become hyper-resp<br>even to tiny quantities<br>an range in severity for<br>ordentify in advance<br>54 Substances that<br>d from substances w<br>ore-existing airway h<br>lisease themselves.<br>or respiratory sensit | pational asthma (also known<br>nduce a state of specific airw<br>gical, irritant or other mechar<br>oonsive, further exposure to t<br>s, may cause respiratory sym<br>rom a runny nose to asthma.<br>will become hyper-responsive<br>those who are likely to becor<br>can cause occupational asth<br>hich may trigger the sympton<br>yper-responsiveness, but wh<br>The latter substances are no<br>isers., Wherever it is reasona<br>cause occupational asthma | ay hyper-<br>hism. Once the<br>he substance,<br>ptoms. These<br>Not all workers<br>e and it is<br>ne hyper-<br>ma should be<br>hs of asthma in<br>ich do not<br>t classified<br>hbly practicable, |  |

according to Regulation (EC) No. 1907/2006



| Version<br>2.0 | Revision Date:<br>19.02.2018  | SDS Number:<br>H53212  |   |
|----------------|---|--|---|
|                | standards<br>substance<br>exposure<br>to short-te<br>managem<br>employees<br>occupation<br>occupation<br>surveilland<br>substance<br>sensitisati<br>and skin c<br>Critical as<br>asthma' as<br>assessme<br>'Sen' nota   | . Where this is not possible, the primary aim is to app<br>of control to prevent workers from becoming hyper-re-<br>s that can cause occupational asthma, COSHH requi-<br>be reduced as low as is reasonably practicable. Activ<br>rm peak concentrations should receive particular atte-<br>ent is being considered. Health surveillance is approp-<br>s exposed or liable to be exposed to a substance whi<br>hal asthma and there should be appropriate consulta-<br>nal health professional over the degree of risk and lev-<br>ce., Capable of causing occupational asthma. The ide<br>s are those which: - are assigned the risk phrase 'Re-<br>on by inhalation'; or 'R42/43: May cause sensitisation<br>ontact' or - are listed in section C of HSE publication<br>sessments of the evidence for agents implicated in or<br>s updated from time to time, or any other substance w<br>nt has shown to be a potential cause of occupational<br>tion in the list of WELs has been assigned only to tho<br>y cause occupational asthma.<br>STEL 0.07 mg/m3   | esponsive. For<br>ires that<br>vities giving rise<br>ention when ris<br>priate for all<br>ich may cause<br>tion with an<br>vel of<br>entified<br>42: May cause<br>by inhalation<br>o 'Asthmagen?<br>ccupational<br>which the risk<br>asthma., The   |
|                | nformation Substance  | (as -NCO)<br>es that can cause occupational asthma (also known a   |   |
|                | and respir<br>responsive<br>airways ha<br>sometimes<br>symptoms<br>who are et<br>impossible<br>responsive<br>distinguish<br>people wit<br>include the<br>asthmage<br>exposure<br>prevented<br>standards<br>substance<br>exposure<br>to short-te<br>managem<br>employees<br>occupation<br>occupation<br>occupation<br>surveilland<br>substance<br>sensitisati<br>and skin c<br>Critical as<br>asthma' as<br>assessme<br>'Sen' nota | atory sensitisers) can induce a state of specific airwa<br>eness via an immunological, irritant or other mechani-<br>ave become hyper-responsive, further exposure to the<br>seven to tiny quantities, may cause respiratory symp<br>can range in severity from a runny nose to asthma. If<br>xposed to a sensitiser will become hyper-responsive<br>to identify in advance those who are likely to become<br>e to identify in advance those who are likely to become<br>e. 54 Substances that can cause occupational asthm<br>ned from substances which may trigger the symptoms<br>h pre-existing airway hyper-responsiveness, but whice<br>disease themselves. The latter substances are not<br>ins or respiratory sensitisers., Wherever it is reasonal<br>to substances that can cause occupational asthma sf<br>. Where this is not possible, the primary aim is to app<br>of control to prevent workers from becoming hyper-re-<br>is that can cause occupational asthma sf<br>. Where this is not possible, the primary aim is to app<br>of control to prevent workers from becoming hyper-re-<br>is that can cause occupational asthma. COSHH requ<br>be reduced as low as is reasonably practicable. Active<br>rm peak concentrations should receive particular atter<br>ent is being considered. Health surveillance is appropri-<br>s exposed or liable to be exposed to a substance whi-<br>hal health professional over the degree of risk and lev-<br>ce., Capable of causing occupational asthma. The ide<br>is are those which: - are assigned the risk phrase 'R-<br>on by inhalation'; or 'R42/43: May cause sensitisation<br>ontact' or - are listed in section C of HSE publication<br>sessments of the evidence for agents implicated in or<br>is updated from time to time, or any other substance v<br>in thas shown to be a potential cause of occupational<br>tion in the list of WELs has been assigned only to tho<br>y cause occupational asthma. | ay hyper-<br>sm. Once the<br>e substance,<br>btoms. These<br>Not all workers<br>and it is<br>he hyper-<br>ha should be<br>s of asthma in<br>ch do not<br>classified<br>bly practicable,<br>hould be<br>bly adequate<br>esponsive. For<br>ires that<br>vities giving rise<br>ention when rise<br>priate for all<br>ich may cause<br>tion with an<br>vel of<br>entified<br>42: May cause<br>hould be<br>by inhalation<br>hyperiate for all<br>ich may cause<br>to by inhalation<br>hyperiate for all<br>ich may cause<br>to by inhalation<br>hyperiate for all<br>ich may cause<br>hyperiate for all<br>ich may cause |

according to Regulation (EC) No. 1907/2006



# K38

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53212      |

### **Biological occupational exposure limits**

| Substance name                  | CAS-No.    | Control parameters                                      | Sampling time | Basis          |
|---------------------------------|------------|---|---------------|----------------|
| HDI oligomers,<br>isocyanurate  | 28182-81-2 | urinary diamine: 1<br>µmol/mol<br>creatinine<br>(Urine) | Post task     | GB EH40<br>BAT |
| hexamethylene-di-<br>isocyanate | 822-06-0   | urinary diamine: 1<br>µmol/mol<br>creatinine<br>(Urine) | Post task     | GB EH40<br>BAT |

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name                          | End Use | Exposure routes | Potential health effects      | Value       |
|---|---------|-----------------|-------------------------------|-------------|
| n-butyl acetate                         | Workers | Inhalation      | Long-term systemic<br>effects | 480 mg/m3   |
| 2-methoxy-1-<br>methylethyl acetate     | Workers | Inhalation      | Long-term systemic effects    | 275 mg/m3   |
| Low boiling point naphtha - unspecified | Workers | Inhalation      | Long-term systemic<br>effects | 608 mg/m3   |
| dibutyltin dilaurate                    | Workers | Inhalation      | Long-term local effects       | 0.01 mg/m3  |
| hexamethylene-di-<br>isocyanate         | Workers | Inhalation      | Long-term local effects       | 0.035 mg/m3 |

### 8.2 Exposure controls

# Personal protective equipment

| Eye protection              | : | Eye wash bottle with pure water<br>Tightly fitting safety goggles  |
|-----------------------------|---|--|
| Hand protection<br>Material | : | Solvent-resistant gloves   |
| Skin and body protection    | : | Impervious clothing<br>Choose body protection according to the amount and<br>concentration of the dangerous substance at the work place. |
| Respiratory protection      | : | In the case of vapour formation use a respirator with an approved filter.  |

# **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

| Appearance | : | liquid, viscous |
|------------|---|-----------------|
| Colour     | : | colourless      |
| Odour      | : | characteristic  |



# K38

| Versio<br>2.0 | n Revision Date<br>19.02.2018                    | : | SDS Number:<br>H53212                              |
|---------------|--|---|--|
| pl            | Н  | : | Not applicable                                     |
| М             | lelting point/range                              | : | not determined                                     |
| В             | oiling point/boiling range                       | : | 126.3 °C<br>(7.6 hPa)                              |
| F             | lash point                                       | : | 31 °C<br>Method: ISO 1523, closed cup<br>Setaflash |
|               | pper explosion limit / Upper<br>ammability limit | : | not determined                                     |
|               | ower explosion limit / Lower<br>ammability limit | : | not determined                                     |
| V             | apour pressure                                   | : | not determined                                     |
| D             | ensity   | : | 1.066 g/cm3 (20 °C)<br>Method: ISO 2811-1          |
| S             | olubility(ies)<br>Water solubility               | : | immiscible   |
| V             | iscosity<br>Viscosity, dynamic                   | : | 50 mPa.s (20 °C)<br>Method: ISO 2555               |
|               | Viscosity, kinematic                             | : | > 20.5 mm2/s (40 °C)                               |

### 9.2 Other information

No data available

## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

No decomposition if stored and applied as directed.

#### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

| Conditions to avoid | : Heat, flames and sparks. |
|---------------------|----------------------------|
|---------------------|----------------------------|

### 10.5 Incompatible materials



|  | Revision Date:<br>19.02.2018 | SDS Number:<br>H53212   |
|--|------------------------------|---|
| Materials to avoid                       | : t                          | Oxidizing agents<br>Strong acids and strong bases   |
| 10.6 Hazardous deco<br>No data available |                              | ducts   |
| SECTION 11: Toxic                        | cological infor              | mation  |
| 11.1 Information on t                    | toxicological ef             | fects   |
| Acute toxicity                           |                              |   |
| Product:<br>Acute inhalation t           | toxicity :                   | Acute toxicity estimate: 10 - 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method<br>Acute toxicity estimate: 15.35 mg/l |
|  |                              | Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method   |
| Components:                              |                              |   |
| HDI oligomers, i                         | socyanurate:                 |   |
| Acute oral toxicity                      | / :                          | LD50 Oral (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inhalation                         | toxicity :                   | LC50 (Rat): > 0.543 mg/l<br>Exposure time: 4 h<br>Method: OECD Test Guideline 403   |
| Acute dermal tox                         | icity :                      | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402  |
| n-butyl acetate:                         |                              |   |
| Acute oral toxicity                      | / :                          | LD50 Oral (Rat): 10,768 mg/kg<br>Method: OECD Test Guideline 401  |
| Acute inhalation t                       | toxicity :                   | LC50 (Rat): 23.4 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403   |
| Acute dermal tox                         | icity :                      | LD50 (Rabbit): 17,600 mg/kg<br>Method: OECD Test Guideline 402  |
| Solvent naphtha                          | a (petroleum), li            | ght arom.:  |
| Acute oral toxicity                      |                              | LD50 Oral (Rat): 3,592 mg/kg<br>Method: OECD Test Guideline 401   |
|  |                              | 15 / 23   |



| Version<br>2.0                | Revision Date:<br>19.02.2018 | SDS Number:<br>H53212   |
|-------------------------------|------------------------------|---|
| Acute inha                    | alation toxicity             | LC50 (Rat): > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour                                    |
| Acute den                     | mal toxicity                 | LD50 (Rabbit): 3,160 mg/kg<br>Method: OECD Test Guideline 402   |
| hexameth                      | ylene-di-isocyanate          | •   |
| Acute oral                    |                              | LD50 Oral (Rat): 738 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inha                    | alation toxicity             | LC50 (Rat): 0.31 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Acute den                     | mal toxicity                 | LD50 (Rabbit): 593 mg/kg<br>Method: OECD Test Guideline 402   |
| 2-methox                      | y-1-methylethyl acet         | ate:  |
| Acute oral                    | toxicity                     | LD50 Oral (Rat): 8,532 mg/kg<br>Method: OECD Test Guideline 401   |
| Acute inha                    | alation toxicity             | LC50 (Rat): 35.7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: gas<br>Method: OECD Test Guideline 403    |
| Acute der                     | mal toxicity                 | LD50 (Rat): 5,000 mg/kg<br>Method: OECD Test Guideline 402  |
| Skin corr                     | osion/irritation             |   |
| <u>Product:</u><br>Remarks:   | Based on available d         | ata, the classification criteria are not met.   |
| Serious e                     | ye damage/eye irrita         | tion  |
| <u>Product:</u><br>Remarks:   | Based on available d         | ata, the classification criteria are not met.   |
| Respirato                     | ory or skin sensitisat       | ion   |
| <u>Product:</u><br>Result: Ma | ay cause sensitisation       | by skin contact.  |
| Germ cel                      | mutagenicity                 |   |
| Product:                      | -                            |   |
|                               |                              |   |



# K38

| /ersion<br>0                       | Revision Date:<br>19.02.2018             | SDS Number:<br>H53212  |
|------------------------------------|--|--|
| Germ cell mutag<br>Assessment      | genicity- :                              | Based on available data, the classification criteria are not met.                      |
| Carcinogenicit                     | у  |  |
| Product:                           |  |  |
| Carcinogenicity<br>Assessment      | - :                                      | Based on available data, the classification criteria are not met.                      |
| Reproductive t                     | oxicity                                  |  |
| Product:                           |  |  |
| Reproductive to<br>Assessment      | xicity - :                               | Based on available data, the classification criteria are not met.                      |
| STOT - single e                    | exposure                                 |  |
| Product:                           |  |  |
|                                    |  | nixture is classified as specific target organ toxicant, single tory tract irritation. |
|                                    | ne substance or m<br>pory 3 with narcoti | nixture is classified as specific target organ toxicant, single c effects.             |
| STOT - repeate                     | ed exposure                              |  |
| <u>Product:</u><br>Remarks: Based  | d on available dat                       | a, the classification criteria are not met.  |
| Aspiration toxi                    | city                                     |  |
| <u>Product:</u><br>Based on availa | ble data, the clas                       | sification criteria are not met.   |
| Further information                | ation                                    |  |

Product:

Remarks: Based on available data, the classification criteria are not met.

:

## **SECTION 12: Ecological information**

# 12.1 Toxicity

Components:

## HDI oligomers, isocyanurate:

Toxicity to algae

EC50 (Algae): 370 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

according to Regulation (EC) No. 1907/2006

Revision Date:



SDS Number:

# K38

Version

| 0                                 | 19.02.2018                     | H53212  |
|-----------------------------------|--------------------------------|---|
| n-butyl acet                      | ate:                           |   |
| Toxicity to fis                   |                                | LC50 (Fish): 18 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203                  |
| Toxicity to da aquatic inver      | aphnia and other :<br>tebrates | EC50 (Daphnia (water flea)): 32 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202  |
| Toxicity to al                    | gae :                          | EC50 (Algae): 675 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201                |
| Solvent nap                       | htha (petroleum),              | light arom.:  |
| Toxicity to fis                   |                                | LC50 (Fish): 9.2 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203                 |
| Toxicity to da aquatic inver      | aphnia and other :<br>tebrates | EC50 (Daphnia (water flea)): 3.2 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to al                    | gae :                          | EC50 (Algae): 2.9 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201                |
| 2-methoxy-1                       | -methylethyl acet              | ate:  |
| Toxicity to fis                   | h :                            | LC50 (Fish): 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203                 |
| Toxicity to da aquatic inver      | aphnia and other :<br>tebrates | EC50 (Daphnia (water flea)): 408 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to al                    | gae :                          | EC50 (Algae): 1,000 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201              |
| 2.2 Persistence<br>No data avai   | and degradability              | ,   |
| 2.3 Bioaccumul<br>No data avai    | -                              |   |
| 2.4 Mobility in s<br>No data avai |                                |   |
| 2.5 Results of P                  | BT and vPvB asse               | essment   |
| Product:                          |                                |   |
|                                   |                                |   |



# K38

| Version<br>2.0                      | Revision Date<br>19.02.2018      | e: | SDS Number:<br>H53212  |  |
|-------------------------------------|----------------------------------|----|--|--|
| As                                  | sessment                         | :  | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |  |
| 12.6 Ot                             | her adverse effects              |    |  |  |
| Pr                                  | oduct:                           |    |  |  |
|                                     | lditional ecological<br>ormation | :  | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.<br>Harmful to aquatic life with long lasting effects.  |  |
| SECTION 13: Disposal considerations |                                  |    |  |  |
| 13.1 W                              | aste treatment methods           |    |  |  |
| Pro                                 | oduct                            | :  | The product should not be allowed to enter drains, water courses or the soil.<br>Do not contaminate ponds, waterways or ditches with chemical or used container.                                   |  |

|                        | Send to a licensed waste management company.   |
|------------------------|--|
| Contaminated packaging | <ul> <li>Empty remaining contents.</li> <li>Dispose of as unused product.</li> <li>Do not re-use empty containers.</li> <li>Do not burn, or use a cutting torch on, the empty drum.</li> </ul> |

# **SECTION 14: Transport information**

| 14.1 UN number                              |   |                        |
|---|---|------------------------|
| IMDG  | : | UN 1263                |
| IATA (Cargo)                                | : | UN 1263                |
| 14.2 UN proper shipping name                |   |                        |
| ADR   | : | PAINT RELATED MATERIAL |
| IMDG  | : | PAINT RELATED MATERIAL |
| IATA (Cargo)                                | : | Paint related material |
| 14.3 Transport hazard class(es)             |   |                        |
| ADR   | : | 3                      |
| IMDG  | : | 3                      |
| IATA (Cargo)                                | : | 3                      |
| 14.4 Packing group                          |   |                        |
| ADR<br>Packing group<br>Classification Code | : | III<br>F1              |



# K38

| Ver<br>2.0 | sion Revision Da<br>19.02.2018   | te: |                             | SDS Number:<br>H53212 |  |
|------------|--|-----|-----------------------------|-----------------------|--|
|            | Hazard Identification Number<br>Labels   | :   | 30<br>3                     |                       |  |
|            | IMDG<br>Packing group<br>Labels<br>EmS Code  | :   | III<br>3<br>F-E, <u>S-E</u> |                       |  |
|            | IATA (Cargo)<br>Packing instruction (cargo<br>aircraft)<br>Packing instruction (LQ)<br>Packing group               | :   | 366<br>Y344<br>III          |                       |  |
| 14.        | Labels 5 Environmental hazards   | :   | Flammable Liquids           |                       |  |
|            | ADR<br>Environmentally hazardous<br>IMDG   | :   | no                          |                       |  |
|            | Marine pollutant   | :   | no                          |                       |  |
| 14.6       | S Special precautions for use<br>Not applicable  | er  |                             |                       |  |
| 14.7       | 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code<br>Not applicable for product as supplied. |     |                             |                       |  |

SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

|    | 5c | FLAMMABLE LIQUIDS   | Quantity 1<br>5,000 t | Quantity 2<br>50,000 t |
|----|----|---|-----------------------|------------------------|
| 3, | 4  | Petroleum products: (a)<br>gasolines and naphthas,<br>(b) kerosenes (including jet<br>fuels), (c) gas oils<br>(including diesel fuels,<br>home heating oils and gas<br>oil blending streams),(d)<br>heavy fuel oils (e)<br>alternative fuels serving the<br>same purposes and with<br>similar properties as<br>regards flammability and<br>environmental hazards as<br>the products referred to in<br>points (a) to (d) | 2,500 t               | 25,000 t               |

### Other regulations:



# K38

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53212      |

The product is classified and labelled in accordance with EC directives or respective national laws.

### 15.2 Chemical safety assessment

The supplier has not carried out evaluation of chemical safety.

## **SECTION 16: Other information**

#### Full text of H-Statements

| H226                            | :  | Flammable liquid and vapour.   |
|---------------------------------|----|--|
| H302                            | :  | Harmful if swallowed.  |
| H304                            | :  | May be fatal if swallowed and enters airways.  |
| H314                            | :  | Causes severe skin burns and eye damage.   |
| H315                            | :  | Causes skin irritation.  |
| H317                            | :  | May cause an allergic skin reaction.   |
| H319                            | :  | Causes serious eye irritation.   |
| H330                            | :  | Fatal if inhaled.  |
| H332                            | :  | Harmful if inhaled.  |
| H334                            | :  | May cause allergy or asthma symptoms or breathing  |
|                                 |    | difficulties if inhaled.   |
| H335                            | :  | May cause respiratory irritation.  |
| H336                            | :  | May cause drowsiness or dizziness.   |
| H341                            | :  | Suspected of causing genetic defects.  |
| H360FD                          | :  | May damage fertility. May damage the unborn child.   |
| H370                            | :  | Causes damage to organs.   |
| H372                            | :  | Causes damage to organs through prolonged or repeated  |
|                                 |    | exposure.  |
| H400                            | :  | Very toxic to aquatic life.  |
| H410                            | :  | Very toxic to aquatic life with long lasting effects.  |
| H411                            | :  | Toxic to aquatic life with long lasting effects.   |
| Full text of other abbreviation | ns |  |
| Acute Tox.                      | :  | Acute toxicity   |
| Aquatic Acute                   | :  | Acute aquatic toxicity   |
| Aquatic Chronic                 | :  | Chronic aquatic toxicity   |
| Asp. Tox.                       | :  | Aspiration hazard  |
| Eye Irrit.                      | :  | Eye irritation   |
| Flam. Liq.                      | :  | Flammable liquids  |
| Muta.                           | :  | Germ cell mutagenicity   |
| Repr.                           | :  | Reproductive toxicity  |
| Resp. Sens.                     | :  | Respiratory sensitisation  |
| Skin Corr.                      | :  | Skin corrosion   |
| Skin Irrit.                     | :  | Skin irritation  |
| Skin Sens.                      | :  | Skin sensitisation   |
| STOT RE                         | :  | Specific target organ toxicity - repeated exposure   |
| STOT SE                         | :  | Specific target organ toxicity - single exposure   |
| 2000/39/EC                      | :  | Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values |
| GB EH40                         | :  | UK. EH40 WEL - Workplace Exposure Limits   |
| GB EH40 BAT                     | :  | UK. Biological monitoring guidance values  |
| 2000/39/EC / TWA                | :  | Limit Value - eight hours  |
| 2000/39/EC / STEL               | :  | Short term exposure limit  |
| GB EH40 / TWA                   | :  | Long-term exposure limit (8-hour TWA reference period)   |
| -                               |    |  |



K38

| Version | Revision Date: | SDS Number: |
|---------|----------------|-------------|
| 2.0     | 19.02.2018     | H53212      |

GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System: GLP - Good Laboratory Practice: IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID -Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States): UN - United Nations: vPvB - Very Persistent and Very Bioaccumulative

### Further information

Sources of key data used to : http://echa.europa.eu, http://eur-lex.europa.eu compile the Safety Data Sheet

| Classification of the mi | xture: | Classification procedure:           |
|--------------------------|--------|-------------------------------------|
| Flam. Liq. 3             | H226   | Based on product data or assessment |
| Acute Tox. 4             | H332   | Calculation method                  |
| Skin Sens. 1             | H317   | Based on product data or assessment |
| STOT SE 3                | H336   | Based on product data or assessment |
| STOT SE 3                | H335   | Based on product data or assessment |
| Aquatic Chronic 3        | H412   | Calculation method                  |

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# K38

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|---------|----------------|-------------|
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specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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