

## Acetone

Version number: GHS 1.0

Date of compilation: 2019-05-23

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

#### 1.1 Product identifier

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Identification of the substance | <b>Acetone</b>                    |
| Registration number (REACH)     | this information is not available |
| CAS number                      | 67-64-1                           |
| Alternative name(s)             | propan-2-one                      |
| Article number                  | A0001274                          |

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

|                          |             |
|--------------------------|-------------|
| Relevant identified uses | General use |
|--------------------------|-------------|

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

Chemos GmbH & Co. KG  
Sonnenring 7  
84032 Altdorf  
Germany

Telephone: +49 871-966346-0  
Telefax: +49 871-966346-13  
e-mail: chemos@chemos.de  
Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

#### 1.4 Emergency telephone number

Emergency information service  
This number is only available during the following office hours: Mon - Thu 08:00 AM - 05:00 PM, Fri 08:00 AM - 12:00 PM

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

| Section | Hazard class  | Category | Hazard class and category | Hazard statement |
|---------|---|----------|---------------------------|------------------|
| 2.6     | flammable liquid  | 2        | Flam. Liq. 2              | H225             |
| 3.3     | serious eye damage/eye irritation   | 2        | Eye Irrit. 2              | H319             |
| 3.8D    | specific target organ toxicity - single exposure (narcotic effects, drowsiness) | 3        | STOT SE 3                 | H336             |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects  
The product is combustible and can be ignited by potential ignition sources.

#### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

- Pictograms

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GHS02, GHS07

**- Hazard statements**

- H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

**- Precautionary statements**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P312 Call a POISON CENTRE/doctor if you feel unwell.  
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container to industrial combustion plant.

**- Supplemental hazard information**

- EUH066 Repeated exposure may cause skin dryness or cracking.

**2.3 Other hazards**

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### SECTION 3: Composition/information on ingredients

**3.1 Substances**

|                   |                                 |
|-------------------|---------------------------------|
| Name of substance | Acetone                         |
| Identifiers       |                                 |
| CAS No            | 67-64-1                         |
| EC No             | 200-662-2                       |
| Molecular formula | C <sub>3</sub> H <sub>6</sub> O |
| Molar mass        | 58.08 g/mol                     |

### SECTION 4: First aid measures

**4.1 Description of first aid measures****General notes**

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

**Following inhalation**

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

**Following skin contact**

Wash with plenty of soap and water.

**Following eye contact**

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

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Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects.

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

Advices on how to contain a spill

Covering of drains

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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## 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) |               |         |            |           |                          |            |                           |                 |                                |          |            |
|--|---------------|---------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|------------|
| Country  | Name of agent | CAS No  | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [ppm] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source     |
| EU   | acetone       | 67-64-1 | IOELV      | 500       | 1,210                    |            |                           |                 |                                |          | 2000/39/EC |
| GB   | acetone       | 67-64-1 | WEL        | 500       | 1,210                    | 1,500      | 3,620                     |                 |                                |          | EH40/2005  |

Notation

Ceiling-C

ceiling value is a limit value above which exposure should not occur

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### Notation

|      |  |
|------|--|
| STEL | short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)                   |
| TWA  | time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

### Human health values

| Relevant DNELs and other threshold levels |                         |                                    |                   |                            |
|---|-------------------------|------------------------------------|-------------------|----------------------------|
| Endpoint                                  | Threshold level         | Protection goal, route of exposure | Used in           | Exposure time              |
| DNEL                                      | 1,210 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| DNEL                                      | 2,420 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | acute - local effects      |
| DNEL                                      | 186 mg/kg bw/day        | human, dermal                      | worker (industry) | chronic - systemic effects |

### Environmental values

| Relevant PNECs and other threshold levels |                 |                       |                              |                              |
|---|-----------------|-----------------------|------------------------------|------------------------------|
| Endpoint                                  | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| PNEC                                      | 10.6 mg/l       | aquatic organisms     | freshwater                   | short-term (single instance) |
| PNEC                                      | 1.06 mg/l       | aquatic organisms     | marine water                 | short-term (single instance) |
| PNEC                                      | 100 mg/l        | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| PNEC                                      | 30.4 mg/kg      | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| PNEC                                      | 3.04 mg/kg      | aquatic organisms     | marine sediment              | short-term (single instance) |
| PNEC                                      | 29.5 mg/kg      | terrestrial organisms | soil                         | short-term (single instance) |

## 8.2 Exposure controls

### Appropriate engineering controls

General ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Skin protection

##### - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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### SECTION 9: Physical and chemical properties

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

##### Appearance

|                |                |
|----------------|----------------|
| Physical state | liquid         |
| Colour         | colourless     |
| Odour          | characteristic |

##### Other safety parameters

|   |   |
|---|---|
| pH (value)                              | 5 – 6 (water: 0 mg/cm <sup>3</sup> , 20 °C)   |
| Melting point/freezing point            | -94.8 °C                                      |
| Initial boiling point and boiling range | 56.05 °C                                      |
| Flash point                             | -17 °C  |
| Evaporation rate                        | not determined                                |
| Flammability (solid, gas)               | not relevant, (fluid)                         |
| Explosive limits                        | not determined                                |
| Vapour pressure                         | 240 hPa at 20 °C                              |
| Density                                 | not determined                                |
| Vapour density                          | this information is not available             |
| Relative density                        | information on this property is not available |

##### Solubility(ies)

|                    |                            |
|--------------------|----------------------------|
| - Water solubility | miscible in any proportion |
|--------------------|----------------------------|

##### Partition coefficient

|                             |              |
|-----------------------------|--------------|
| - n-octanol/water (log KOW) | -0.23 (ECHA) |
|-----------------------------|--------------|

|                           |   |
|---------------------------|---|
| Auto-ignition temperature | 465 °C (ECHA) (auto-ignition temperature (liquids and gases)) |
|---------------------------|---|

##### Viscosity

|                     |                      |
|---------------------|----------------------|
| - Dynamic viscosity | 1.53 mPa s at -80 °C |
|---------------------|----------------------|

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|                      |      |
|----------------------|------|
| Explosive properties | none |
| Oxidising properties | none |

### 9.2 Other information

|                                      |  |
|--------------------------------------|--|
| Surface tension                      | 38.1 mN/m (-91.09 °C) (ECHA)   |
| Solvent content                      | 100 %  |
| Temperature class (EU, acc. to ATEX) | T1 (maximum permissible surface temperature on the equipment: 450°C) |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

### 10.5 Incompatible materials

Oxidisers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

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### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Other information

Repeated exposure may cause skin dryness or cracking.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### Biodegradation

The substance is readily biodegradable. The relevant substances of the mixture are readily biodegradable.

### 12.2 Persistence and degradability

| Process of degradability  |                  |      |
|---------------------------|------------------|------|
| Process                   | Degradation rate | Time |
| carbon dioxide generation | 90.9 %           | 28 d |

### 12.3 Bioaccumulative potential

Data are not available.

|                           |              |
|---------------------------|--------------|
| n-octanol/water (log KOW) | -0.23 (ECHA) |
| BOD5/COD                  | 963.54166667 |

### 12.4 Mobility in soil

Data are not available.

|                      |                                       |
|----------------------|---------------------------------------|
| Henry's law constant | 2.929 Pa m <sup>3</sup> /mol at 25 °C |
|----------------------|---------------------------------------|

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

### SECTION 14: Transport information

|  |  |
|--|--|
| <b>14.1 UN number</b>  | 1090   |
| <b>14.2 UN proper shipping name</b>  | ACETONE  |
| <b>14.3 Transport hazard class(es)</b>   |  |
| Class  | 3 (flammable liquids)  |
| <b>14.4 Packing group</b>  | II (substance presenting medium danger)                                      |
| <b>14.5 Environmental hazards</b>  | non-environmentally hazardous acc. to the dangerous goods regulations        |
| <b>14.6 Special precautions for user</b>                                       |  |
|  | Provisions for dangerous goods (ADR) should be complied within the premises. |
| <b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b> |  |
|  | The cargo is not intended to be carried in bulk.                             |

#### Information for each of the UN Model Regulations

##### **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

|                      |         |
|----------------------|---------|
| UN number            | 1090    |
| Proper shipping name | ACETONE |
| Class                | 3       |
| Classification code  | F1      |
| Packing group        | II      |
| Danger label(s)      | 3       |





|                               |     |
|-------------------------------|-----|
| Excepted quantities (EQ)      | E2  |
| Limited quantities (LQ)       | 1 L |
| Transport category (TC)       | 2   |
| Tunnel restriction code (TRC) | D/E |

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|   |          |
|---|----------|
| Hazard identification No  | 33       |
| Emergency Action Code   | 2YE      |
| <b>International Maritime Dangerous Goods Code (IMDG)</b>                           |          |
| UN number   | 1090     |
| Proper shipping name  | ACETONE  |
| Class   | 3        |
| Marine pollutant  | -        |
| Packing group   | II       |
| Danger label(s)   | 3        |
|    |          |
| Special provisions (SP)   | -        |
| Excepted quantities (EQ)  | E2       |
| Limited quantities (LQ)   | 1 L      |
| EmS   | F-E, S-D |
| Stowage category  | E        |
| <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>                    |          |
| UN number   | 1090     |
| Proper shipping name  | Acetone  |
| Class   | 3        |
| Packing group   | II       |
| Danger label(s)   | 3        |
|  |          |
| Excepted quantities (EQ)  | E2       |
| Limited quantities (LQ)   | 1 L      |

**SECTION 15: Regulatory information**

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

**Relevant provisions of the European Union (EU)**

**Deco-Paint Directive (2004/42/EC)**

|             |       |
|-------------|-------|
| VOC content | 100 % |
|-------------|-------|

**Directive on industrial emissions (VOCs, 2010/75/EU)**

|             |       |
|-------------|-------|
| VOC content | 100 % |
|-------------|-------|

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance.

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### SECTION 16: Other information

#### Abbreviations and acronyms

| Abbr.      | Descriptions of used abbreviations  |
|------------|---|
| 2000/39/EC | Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC   |
| ADN        | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR        | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)                                       |
| BOD        | Biochemical Oxygen Demand   |
| CAS        | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| Ceiling-C  | Ceiling value   |
| CLP        | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  |
| COD        | Chemical oxygen demand  |
| DGR        | Dangerous Goods Regulations (see IATA/DGR)  |
| DNEL       | Derived No-Effect Level   |
| EC No      | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)                                     |
| EH40/2005  | EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )                                 |
| EINECS     | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS     | European List of Notified Chemical Substances   |
| EmS        | Emergency Schedule  |
| GHS        | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA       | International Air Transport Association   |
| IATA/DGR   | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO       | International Civil Aviation Organization   |
| IMDG       | International Maritime Dangerous Goods Code   |
| IOELV      | Indicative occupational exposure limit value  |
| MARPOL     | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")   |
| NLP        | No-Longer Polymer   |
| PBT        | Persistent, Bioaccumulative and Toxic   |
| PNEC       | Predicted No-Effect Concentration   |
| ppm        | Parts per million   |
| REACH      | Registration, Evaluation, Authorisation and Restriction of Chemicals  |
| RID        | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)   |
| STEL       | Short-term exposure limit   |
| TWA        | Time-weighted average   |
| VOC        | Volatile Organic Compounds  |

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| Abbr. | Descriptions of used abbreviations       |
|-------|--|
| vPvB  | Very Persistent and very Bioaccumulative |
| WEL   | Workplace exposure limit                 |

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

| Code | Text                                |
|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation.      |
| H336 | May cause drowsiness or dizziness.  |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.