

SAFETY DATA SHEET

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

1.1 Product identifier

- Datasheet Number: SP152/SP162 Version 3.0.0
- Product Name: Calcium Hypochlorite Tablets/Granules
- Chemical Name: Calcium hypochlorite, hydrated
- Synonyms: Hypochlorous acid, calcium salt
- CAS Number: 7778-54-3
- EC No.: 231-908-7
- Index No.: 017-012-00-7

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

- Use of the substance/mixture: Pool / spa treatment; Biocide
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Total Pool Chemicals Ltd
- Address of Supplier: Unit 1-5 , Pool Bank Business Park
High Street, Tarvin
Chester
UK
CH3 8JH
- Telephone: +44 (0)1829 740290
- Email: sales@totalpool.co.uk

1.4 Emergency telephone number

- +44 (0)1829 740290 (Office Hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Ox. Sol. 2, H272; Acute Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Aquatic Acute 1, H400; EUH031
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements



- Signal Word: Danger
- Hazard statements
 - H272 - May intensify fire; oxidiser.
 - H302 - Harmful if swallowed.
 - H314 - Causes severe skin burns and eye damage.
 - H400 - Very toxic to aquatic life.
- Precautionary statements
 - P102 - Keep out of reach of children.
 - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 - P273 - Avoid release to the environment.
 - P280 - Wear protective gloves/protective clothing/eye protection/face protection.



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SECTION 2: Hazards identification (....)

P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P501 - Dispose of contents/container to an authorised waste collection point

- Supplemental Hazard information (EU)
EUH031 - Contact with acids liberates toxic gas.

2.3 Other hazards

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL/ OEL
Calcium hypochlorite	> 65%	7778-54-3	231-908-7	Ox. Sol. 2, H272; Acute Tox. 4, H302; Skin Corr. 1B, H314; Aquatic Acute 1, H400; EUH031	Eye Dam. 1; H318: 3 % ≤ C < 5 % Eye Irrit. 2; H319: 0,5 % < C < 3 % Skin Corr. 1B; H314: C ≥ 5 % Skin Irrit. 2; H315: 1 % ≤ C < 5 % M=10	-	None
Sodium chloride	< 25%	7647-14-5	231-598-3	Not Classified	-	-	None
Water	< 10%	7732-18-5	231-791-2	Not Classified	-	-	None
Calcium chloride	< 6%	10043-52-4	233-140-8	Eye Irrit. 2, H319	-	-	None
Calcium hydroxide	< 6%	1305-62-0	215-137-3	Skin Irrit. 2, H315; Eye Dam. 1, H318; STOT SE 3, H335	-	-	Yes
Carbonic acid, calcium salt (1:1)	< 4%	471-34-1	207-439-9	Not Classified	-	-	None

3.2 Mixtures

- Not applicable

SECTION 4: First aid measures

Rescuers should put on approved personal protective equipment (PPE) before administering first aid

Rescuers should take suitable precautions to avoid becoming casualties themselves

4.1 Description of first aid measures

- Contact with eyes
If substance has got into eyes, immediately wash out with plenty of water for several minutes
Irrigate eyes thoroughly whilst lifting eyelids
Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.
- Contact with skin
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and water
Contaminated clothing should be laundered before reuse

SECTION 4: First aid measures (....)

Get medical advice/attention.

- Ingestion
 - Rinse mouth with water (do not swallow)
 - Give plenty of water to drink
 - Do NOT induce vomiting.
 - Get immediate medical advice/attention.
- Inhalation
 - If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

- Contact with eyes
 - Causes redness and swelling
 - May cause severe damage with formation of corneal ulcers and permanent impairment of vision.
- Contact with skin
 - May cause severe burns with permanent skin damage which are slow to heal.
 - May cause blistering of the skin
- Ingestion
 - May cause burns to mouth and throat
 - May disturb the mucous membranes
 - May cause stomach pain
 - The ingestion of significant quantities may cause burning sensation
- Inhalation
 - Inhalation of decomposition products of calcium hypochlorite may cause lung oedema. The effects may be delayed.
 - May cause respiratory tract irritation.
 - May cause shortness of breath
 - May cause coughing

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media: Water spray; water fog
- Unsuitable extinguishing media: Carbon dioxide; alcohol resistant foam; DO NOT USE dry extinguishers containing ammonium compounds such as dry powder.

5.2 Special hazards arising from the substance or mixture

- May intensify fire; oxidiser.
- Not combustible, but will contribute to the combustion of other materials. May cause violent, sometimes explosive reactions.
- In a fire or if heated, a pressure increase will occur and the container may burst
- Gives off irritating or toxic fumes (or gases) in a fire.
- Decomposition products may include oxygen, chlorine, hydrogen chloride gas, hydrochloric acid, calcium oxides, calcium chlorate, calcium hydroxide and calcium carbonate

5.3 Advice for firefighters

- Evacuate the area and keep personnel upwind
- Keep container(s) exposed to fire cool, by spraying with water



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SECTION 5: Firefighting measures (....)

- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Rescuers should take suitable precautions to avoid becoming casualties themselves
- Only trained and authorised personnel should carry out emergency response
- Personal precautions for non-emergency personnel: Ensure adequate ventilation; Do not breathe dust; Wear protective clothing as per section 8; Wash thoroughly after handling.
- Personal precautions for emergency responders: Evacuate the area and keep personnel upwind; Wear self-contained breathing apparatus (SCBA); Wear suitable protective clothing, eye/face protection and gloves; Natural rubber are recommended

6.2 Environmental precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Stop leak if safe to do so.
- Avoid formation of dust
- Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal
- Seal containers and label them
- Seek expert advice for removal and disposal of all contaminated materials and wastes
- Flush spill area with copious amounts of water

6.4 Reference to other sections

- See section(s): 7, 8 & 13

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Use only in well ventilated areas
- Do not breathe dust
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Protect from moisture.
- Do not add water to the product, always add the product to large quantities of water.
- Do not mix with other chemicals
- Avoid contact with skin and eyes
- Wear protective clothing as per section 8
- Contaminated clothing should be laundered before reuse
- Contaminated work clothing should not be allowed out of the workplace.
- Use good personal hygiene practices
- Do not eat, drink or smoke when using this product.
- Wash thoroughly after handling.
- Ensure eyewash stations and safety showers are nearby

7.2 Conditions for safe storage, including any incompatibilities

- Keep in a cool, dry, well ventilated place
- Keep container tightly closed.
- Protect from moisture.



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SECTION 7: Handling and storage (....)

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep away from combustible material
- Keep away from food, drink and animal feedingstuffs

7.3 Specific end use(s)

- Pool / spa treatment
-

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- The UK HSE (EH40) recommends the following limits for dusts: 10 mg/m³ (8hr TWA) total inhalable dust; 4 mg/m³ (8hr TWA) total respirable dust
- Calcium Hypochlorite
(As chlorine)
(EU) OELV (short term limit value) 0.5 ppm 1.5 mg/m³
WEL (short term limit value) 0.5 ppm 1.5 mg/m³ (UK)
- Calcium chloride
DNEL (inhalational) 5 mg/m³ Industry, Long Term, Local Effects
DNEL (inhalational) 10 mg/m³ Industry, Acute/Short Term, Local Effects
DNEL (inhalational) 2.5 mg/m³ Consumer, Long Term, Local Effects
DNEL (inhalational) 5 mg/m³ Consumer, Acute/Short Term, Local Effects
- Calcium dihydroxide
(EU) OELV (long term TWA) 1 mg/m³
(EU) OELV (short term limit value) 4 mg/m³
WEL (long term) 5 mg/m³ (UK, inhalable fraction)
WEL (long term) 1 mg/m³ (UK, respirable fraction)
WEL (short term) 4 mg/m³ (UK, respirable fraction)
DNEL (inhalational) 1 mg/m³ Industry, Long Term, Local Effects
DNEL (inhalational) 4 mg/m³ Industry, Short Term, Local Effects
DNEL (inhalational) 1 mg/m³ Consumer, Long Term, Local Effects
DNEL (inhalational) 4 mg/m³ Consumer, Short Term, Local Effects
PNEC aqua (freshwater) 490 µg/l
PNEC aqua (intermittent releases, freshwater) 490 µg/l
PNEC aqua (marine water) 320 µg/l
PNEC (STP) 3 mg/l
PNEC terrestrial (soil) 1.08 g/kg

8.2 Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
Ensure adequate ventilation
Engineering controls should be provided to prevent the need for ventilation
Use local exhaust ventilation and/or enclosures.

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SECTION 8: Exposure controls/personal protection (....)

- Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment
Where a reusable half mask respirator is required, use EN 140 mask and EN 143 particle filter, or EN 1827
Where a full face mask respirator is required, use EN 136, with particle filter EN 143
- Eye/face protection
Wear goggles giving complete eye protection approved to standard EN 166.
- Skin protection
Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
Wear suitable protective clothing
Contaminated work clothing should not be allowed out of the workplace.
Contaminated clothing should be laundered before reuse
- Hygiene measures
Do not eat, drink or smoke when using this product.
Use good personal hygiene practices
Wash thoroughly after handling.
Ensure eyewash stations and safety showers are nearby
- Environmental exposure controls
Do not empty into drains
Do not allow to penetrate the ground/soil.



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Solid, white tablets or granules
- Odour: Smells of chlorine
- Odour threshold: 1-3 ppm (value for chlorine)
- pH: 10.8 (10% Solution)
- Melting point/freezing point: 100 °C with decomposition
- Initial boiling point and boiling range: Not applicable
- Flashpoint: Not applicable
- Evaporation Rate: No information available
- Flammability (solid,gas): Not flammable
- Upper/lower flammability or explosive limits: Not applicable
- Vapour Pressure: Not applicable
- Vapour Density: 6.9
- Relative Density: 2.00 (20 °C) (Water = 1)
- Solubility(ies): Solubility in water: 21g/100ml (25 °C) ; 43-48g/100ml (40 °C); insoluble in ethanol
- Partition Coefficient (n-Octanol/Water): Not applicable
- Autoignition Temperature: No information available
- Decomposition temperature: Slowly decomposes at less than 100 °C; when above 140 °C, around 12 minutes of heating up, violent decomposition and combustion occur
- Self-Accelerating Decomposition Temperature (SADT): 60 °C < SADT ≤ 75 °C
- Critical Ambient Temperature (CAT): 55 °C



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SECTION 9: Physical and chemical properties (....)

- Viscosity: No information available
- Explosive Properties: Not applicable
- Oxidising properties: Oxidising

9.2 Other information

- Particle size (range): Granular (0.3-2mm) or tablet (7-300g)
 - Refractive Index: 1.545 (alpha), 1.69 (beta)
 - Bulk Density: 1.0 g/cm³ (loose granules)
 - Moisture content: 5.5-10%
 - Molecular formula: 142.98
-

SECTION 10: Stability and reactivity**10.1 Reactivity**

- May intensify fire; oxidizer

10.2 Chemical stability

- Stable under normal conditions
- May decompose on exposure to heat and light
- May decompose on exposure to air and moisture
- Decomposition may lead to spontaneous ignition through self- heating

10.3 Possibility of hazardous reactions

- May intensify fire; oxidizer
- Heating may cause a fire or explosion.
- Reacts with combustible material
- Reacts with ammonia, primary amines, aromatic amines, and urea to form explosive nitrogen trichloride. May explode upon contact with ethanol or methanol, due to the formation of the alkyl hypochlorites. Contact with hydroxy compounds causes ignition and may be explosive.
- Contact with acetylene may lead to formation of explosive chloroacetylenes.
- Reaction with acetic acid and potassium cyanide may be explosive.
- Reaction with reducing agents causes a violent reaction.
- Reaction with metal oxides can cause a violent oxygen-evolving decomposition of hypochlorites.
- A confined intimate mixture of calcium hypochlorite + finely divided charcoal exploded on heating. Metals catalyze the decomposition. Reaction with organic sulfur compounds may cause a flash fire/ explosion. A mixture of damp sulfur and 'solid swimming pool chlorine' caused a violent exothermic reaction. May explode with turpentine.

10.4 Conditions to avoid

- Avoid formation of dust
- Avoid contact with moisture
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

- Incompatible with flammable, organic and combustible materials, ammonia, primary amines, aromatic amines, and urea acids, ammonium chloride, different types of chlorinating chemicals, ethanol or methanol, hydroxy compounds, acetylene, acetic acid and potassium cyanide, reducing agents, metal oxides, charcoal + heat, metals, organic sulfur compounds, sulfur (damp), and turpentine.

10.6 Hazardous decomposition products

- Decomposition products may include hydrogen chloride gas, hydrochloric acid, calcium oxides, calcium chlorate, calcium hydroxide, calcium carbonate, and chlorine, oxygen gas, and dichlorine monoxide above 177 °C. In contact with incompatible materials, the formation of extremely hazardous gases such as explosively unstable N-mono of Di- Chloramines, corrosive chlorine gas, explosive nitrogen trichloride, alkyl hypochlorites, and explosive chloroacetylenes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity
Harmful if swallowed.

Substances

Chemical Name	LD50 (oral, rat)	LC50 (inhalation, rat)	LD50 (dermal, rabbit)
Calcium hypochlorite	850 mg/kg	No data available	> 2 000 mg/kg
Calcium chloride	2 120 - 2 361 mg/kg	No data available	5 000 mg/kg
Calcium hydroxide	2 000 mg/kg	6.04 mg/l (4h)	2 500 mg/kg

- Skin corrosion/irritation
Causes severe skin burns.
- Serious eye damage/irritation
Causes serious eye damage.
- Respiratory or skin sensitisation
Based on available data, the classification criteria are not met
- Germ cell mutagenicity
No evidence of mutagenic effects
- Carcinogenicity
No evidence of carcinogenic effects
- Reproductive toxicity
No evidence of reproductive effects
- Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met
- Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met
- Aspiration hazard
Based on available data, the classification criteria are not met
- Contact with eyes
Causes redness and swelling
May cause severe damage with formation of corneal ulcers and permanent impairment of vision.
- Contact with skin
May cause severe burns with permanent skin damage which are slow to heal.
May cause blistering of the skin
- Ingestion
May disturb the mucous membranes
May cause stomach pain
The ingestion of significant quantities may cause burning sensation
- Inhalation
Inhalation of decomposition products of calcium hypochlorite may cause lung oedema. The effects may be delayed.
May cause respiratory tract irritation.
May cause shortness of breath
May cause coughing

SECTION 12: Ecological information

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SECTION 12: Ecological information (....)

12.1 Toxicity

- Very toxic to aquatic life.
- Calcium hypochlorite
LC50 (fish) 0.049 - 0.16 mg/l Species: Lepomis macrochirus mg/l (4 days)
- Calcium chloride
LC50 (fish) 4.63 g/l (4 days)
LC50 (aquatic invertebrates) 2.4 - 2.77 g/l (48 hr)
EC50 (aquatic algae) 2.9 - 27 g/l (72 hr)
- Calcium dihydroxide
LC50 (fish) 50.6 - 457 mg/l (4 days)
EC50 (aquatic invertebrates) 49.1 mg/l (48 hr)
EC50 (aquatic algae) 184.57 mg/l (72 hr)

12.2 Persistence and degradability

- No data available

12.3 Bioaccumulative potential

- Log Pow: -2.46 (calcium hypochlorite)

12.4 Mobility in soil

- Large volumes may penetrate soil and contaminate groundwater

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- Do not empty into drains

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- Do not reuse empty containers without commercial cleaning or reconditioning

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Hazardous Property Code(s): HP 2 Oxidising; HP 6 Acute Toxicity; HP 8 Corrosive; HP 14 Ecotoxic

SECTION 14: Transport information

14.1 UN number

- UN No.: 3487

14.2 UN proper shipping name

- Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE

14.3 Transport hazard class(es)



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SECTION 14: Transport information (....)

- Hazard Class: 5.1 (8)

14.4 Packing group

- Packing Group: II

14.5 Environmental hazards

- Marine pollutant

14.6 Special precautions for user

- Keep away from heat and direct sunlight.
- Ensure adequate ventilation

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

14.8 Road/Rail (ADR/RID)

- Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE
- ADR UN No.: 3487
- ADR Hazard Class: 5.1 (8)
- ADR Packing Group: Not applicable
- Tunnel Code: E
- LQ: 1 kg

14.9 Sea (IMDG)

- Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE
- IMDG UN No.: 3487
- IMDG Hazard Class: 5.1 (8)
- IMDG Pack Group.: II

14.10 Air (ICAO/IATA)

- Proper Shipping Name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE
- ICAO UN No.: 3487
- ICAO Hazard Class: 5.1 (8)
- ICAO Packing Group: II

SECTION 15: Regulatory information

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe
- This product is covered by the EU Biocides Regulation 528/2012 (EU BPR)
- This product is covered by EU Directive 2012/18/EU (the Seveso III Directive)

15.2 Chemical safety assessment

- A REACH chemical safety assessment has not been carried out

SECTION 16: Other information

The statements made herein are based on our best present experience and are intended to describe product safety requirements. They should not therefore be considered as a warranty of specific properties.

Sources of data: Information from published literature and supplier safety data sheets

Revision No. 3.0.0. Revised September 2020.



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SECTION 16: Other information (....)

Changes made: Revisions to all sections to conform to Regulation (EU) 2015/830

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

- H272: May intensify fire; oxidizer
- H302: Harmful if swallowed
- H314: Causes severe skin burns and eye damage
- H315: Causes skin irritation.
- H318: Causes serious eye damage
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation
- H400: Very toxic to aquatic life
- EUH031: Contact with acids liberates toxic gas

Acronyms

- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC50: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC50: Lethal Concentration, 50%
- LD50: Lethal Dose, 50%
- NOAEC: No observed adverse effect concentration
- NOAEL: No observed adverse effect level
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- SCL: Specific Concentration Limit
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---
