# SAFETY DATA SHEET

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

**1.1. Product identifier**

| | |
|---|---|
| **Trade name or designation of the mixture** | Tflex B200 |
| **Registration number** | - |
| **Synonyms** | None. |
| **Issue date** | 13-May-2019 |
| **Version number** | 01 |
| **Revision date** | - |
| **Supersedes date** | - |

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

| | |
|---|---|
| **Identified uses** | Industrial use. |
| **Uses advised against** | None known. |

**1.3. Details of the supplier of the safety data sheet**

| | |
|---|---|
| **Supplier** | Laird |
| **Address** | 4707 Detroit Ave Cleveland, Ohio 44102<br>USA |
| **Telephone number** | +1-216-939-2300 |
| **Email** | clv-customerservice@lairdtech.com |
| **Manufacturer** | Laird |
| **Address** | C3&C4 Building, HongTai Industry Park, NO 87 TaiFeng Road, TEDA<br>TianJin, China |
| **Telephone number** | +86(0)22-66298160 |
| **Corporate Office** | Laird PLC |
| **Address** | 100 Pall Mall, London, SW1Y 5NQ United Kingdom |
| **1.4. Emergency telephone number** | +44 (0)20 7468 4040 |

## SECTION 2: Hazards identification

**2.1. Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 as amended**

| | |
|---|---|
| **Hazard summary** | Health injuries are not known or expected under normal use. |

**2.2. Label elements**

**Label according to Regulation (EC) No. 1272/2008 as amended**

| | |
|---|---|
| **Hazard pictograms** | None. |
| **Signal word** | None. |
| **Hazard statements** | The product is an article and therefore the classification requirements do not apply. |

**Precautionary statements**

| | |
|---|---|
| **Prevention** | Observe good industrial hygiene practices. |
| **Response** | Wash hands after handling. |
| **Storage** | Store in its original state. |
| **Disposal** | Dispose of waste and residues in accordance with local authority requirements. |
| **Supplemental label information** | None. |
| **2.3. Other hazards** | This product does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. |

## SECTION 3: Composition/information on ingredients

**3.2. Mixtures**

The components are not hazardous or are below required disclosure limits.

| | |
|---|---|
| **Composition comments** | This product is an article. |

## SECTION 4: First aid measures

**General information** First aid personnel must be aware of own risk during rescue.

**4.1. Description of first aid measures**

**Inhalation** Not relevant, due to the form of the product.

**Skin contact** Not relevant, due to the form of the product.

**Eye contact** Not relevant, due to the form of the product.

**Ingestion** Not relevant, due to the form of the product.

**4.2. Most important symptoms and effects, both acute and delayed** Not relevant, due to the form of the product.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards** No unusual fire or explosion hazards noted. Will burn if involved in a fire.

**5.1. Extinguishing media**

**Suitable extinguishing media** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media** None.

**5.2. Special hazards arising from the substance or mixture** During fire, gases hazardous to health may be formed.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

**Special fire fighting procedures** Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away. For personal protection, see Section 8 of the SDS.

**6.2. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Sweep up or gather material and place in appropriate container for disposal.

**6.4. Reference to other sections** For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

**7.2. Conditions for safe storage, including any incompatibilities** Store in tightly closed original container in a dry, cool and well-ventilated place. Protect from direct sunlight.

**7.3. Specific end use(s)** Industrial use.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits**

**Austria. MAK List**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | MAK | 5 mg/m3 | Respirable fraction. |
| | | 5 mg/m3 | Respirable fume. |
| | | 10 mg/m3 | Inhalable fraction. |
| | STEL | 20 mg/m3 | Inhalable fraction. |

**Austria. MAK List**

| Components | Type | Value | Form |
|---|---|---|---|
| | | 10 mg/m3 | Respirable fume. |
| | | 10 mg/m3 | Respirable fraction. |

**Belgium. Exposure Limit Values**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 1 mg/m3 | Respirable fraction. |

**Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 3,5 mg/m3 | Respirable fraction. |
| | | 10 mg/m3 | Dust. |
| | | 1,5 mg/m3 | Respirable fraction. |

**Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | MAC | 4 mg/m3 | Respirable dust. |
| | | 10 mg/m3 | Total dust. |

**Czech Republic. OELs. Government Decree 361**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 0,1 mg/m3 | Respirable dust. |

**Denmark. Exposure Limit Values**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TLV | 5 mg/m3 | Total |
| | | 2 mg/m3 | Respirable. |

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 4 mg/m3 | Respirable dust. |
| | | 10 mg/m3 | Total dust. |

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

| Components | Type | Value |
|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | VME | 10 mg/m3 |

**Regulatory status:** Indicative limit (VL)

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 4 mg/m3 | Inhalable dust. |
| | | 1,5 mg/m3 | Respirable dust. |

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | AGW | 10 mg/m3 | Inhalable fraction. |
| | | 1,25 mg/m3 | Respirable fraction. |

**Greece. OELs (Decree No. 90/1999, as amended)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 5 mg/m3 | Inhalable |

**Greece. OELs (Decree No. 90/1999, as amended)**

| Components | Type | Value | Form |
|---|---|---|---|
| | | 10 mg/m3 | Respirable. |

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 6 mg/m3 | Respirable. |

**Iceland. OELs. Regulation 154/1999 on occupational exposure limits**

| Components | Type | Value |
|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 10 mg/m3 |

**Ireland. Occupational Exposure Limits**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 4 mg/m3 | Respirable dust. |
| | | 10 mg/m3 | Total inhalable dust. |

**Italy. OELs**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 1 mg/m3 | Respirable fraction. |

**Latvia. OELs. Occupational exposure limit values of chemical substances in work environment**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 6 mg/m3 | Decomposition aerosol. |
| | | 4 mg/m3 | |

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 5 mg/m3 | Inhalable fraction. |
| | | 2 mg/m3 | Respirable fraction. |

**Norway. Administrative Norms for Contaminants in the Workplace**

| Components | Type | Value |
|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TLV | 10 mg/m3 |

**Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 2,5 mg/m3 | Inhalable fraction. |
| | | 1,2 mg/m3 | Respirable fraction. |

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 1 mg/m3 | Respirable fraction. |

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | STEL | 5 mg/m3 | Aerosol |
| | TWA | 2 mg/m3 | Aerosol |

**Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 4 mg/m3 | Inhalable fraction. |
| | | 1,5 mg/m3 | Respirable fraction. |

**Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents**

| Components | Type | Value | Form |
|---|---|---|---|
| | | 0,1 mg/m3 | |

**Spain. Occupational Exposure Limits**

| Components | Type | Value |
|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 10 mg/m3 |

**Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 5 mg/m3 | Total dust. |
| | | 2 mg/m3 | Respirable dust. |

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | STEL | 24 mg/m3 | Respirable dust and/or fume. |
| | TWA | 3 mg/m3 | Respirable dust. |
| | | 3 mg/m3 | Respirable dust and/or fume. |

**UK. EH40 Workplace Exposure Limits (WELs)**

| Components | Type | Value | Form |
|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | TWA | 4 mg/m3 | Respirable dust. |
| | | 10 mg/m3 | Inhalable dust. |

**Biological limit values**

**Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Aluminium oxide (CAS 1344-28-1) | 60 µg/g | Aluminium | Creatinine in urine | * |

* - For sampling details, please see the source document.

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**Exposure guidelines** Occupational Exposure Limits are not relevant to the current physical form of the product.

**8.2. Exposure controls**

**Appropriate engineering controls** In an industrial work environment no special precautions or control measures are required.

**Individual protection measures, such as personal protective equipment**

**General information** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Not normally needed.

**Skin protection**

**- Hand protection** Not normally needed.

**- Other** No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Respiratory protection** Not normally needed.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** Wash hands after contact.

**Environmental exposure controls** Inform appropriate managerial or supervisory personnel of all environmental releases.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

**Appearance**

| | |
|---|---|
| **Physical state** | Solid. |
| **Form** | Pad |
| **Colour** | Dark grey. |
| **Odour** | Odourless. |
| **Odour threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | Not available. |
| **Flash point** | Not available. |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not available. |

**Upper/lower flammability or explosive limits**

| | |
|---|---|
| **Flammability limit - lower (%)** | Not available. |
| **Flammability limit - upper (%)** | Not available. |
| **Vapour pressure** | Not available. |
| **Vapour density** | Not available. |
| **Relative density** | 2,2 (25°C / 77°F) |
| **Solubility(ies)** | Insoluble in water. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Explosive properties** | Not explosive. |
| **Oxidising properties** | Not oxidising. |

**9.2. Other information**

| | |
|---|---|
| **Bulk density** | 2200 kg/m3 |

## SECTION 10: Stability and reactivity

| | |
|---|---|
| **10.1. Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **10.2. Chemical stability** | Material is stable under normal conditions. |
| **10.3. Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **10.4. Conditions to avoid** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. |
| **10.5. Incompatible materials** | None known. |
| **10.6. Hazardous decomposition products** | No hazardous decomposition products are known. |

## SECTION 11: Toxicological information

| | |
|---|---|
| **General information** | Under normal conditions of intended use, this material does not pose a risk to health. |

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | Not likely, due to the form of the product. |
| **Skin contact** | No adverse effects due to skin contact. |
| **Eye contact** | No adverse effects due to eye contact are expected. |
| **Ingestion** | No harmful effects expected in amounts likely to be ingested by accident. |
| **Symptoms** | Not relevant, due to the form of the product. |

**11.1. Information on toxicological effects**

| | |
|---|---|
| **Acute toxicity** | No adverse effects are expected. |
| **Skin corrosion/irritation** | This product is an article. |
| **Serious eye damage/eye irritation** | This product is an article. |
| **Respiratory sensitisation** | This product is an article. |

| | |
|---|---|
| **Skin sensitisation** | This product is an article. |
| **Germ cell mutagenicity** | This product is an article. |
| **Carcinogenicity** | This product is an article. |
| **Reproductive toxicity** | This product is an article. |
| **Specific target organ toxicity - single exposure** | This product is an article. |
| **Specific target organ toxicity - repeated exposure** | This product is an article. |
| **Aspiration hazard** | Due to partial or complete lack of data the classification is not possible. Not relevant, due to the form of the product. |
| **Mixture versus substance information** | No data available. |
| **Other information** | This product is an article and is not expected to release hazardous chemicals under normal conditions of use. |

## SECTION 12: Ecological information

| | |
|---|---|
| **12.1. Toxicity** | Based on available data, the classification criteria are not met for hazardous to the aquatic environment. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| **12.2. Persistence and degradability** | No data available. |
| **12.3. Bioaccumulative potential** | No data available. |
| **Partition coefficient n-octanol/water (log Kow)** | Not available. |
| **Bioconcentration factor (BCF)** | Not available. |
| **12.4. Mobility in soil** | The product is insoluble in water. |
| **12.5. Results of PBT and vPvB assessment** | This product does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. |
| **12.6. Other adverse effects** | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. |

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

| | |
|---|---|
| **Residual waste** | Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| **Contaminated packaging** | Empty containers should be taken to an approved waste handling site for recycling or disposal. |
| **EU waste code** | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| **Disposal methods/information** | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| **Special precautions** | Dispose in accordance with all applicable regulations. |

## SECTION 14: Transport information

**ADR**

14.1. - 14.6.: Not regulated as dangerous goods.

**RID**

14.1. - 14.6.: Not regulated as dangerous goods.

**ADN**

14.1. - 14.6.: Not regulated as dangerous goods.

**IATA**

14.1. - 14.6.: Not regulated as dangerous goods.

**IMDG**

14.1. - 14.6.: Not regulated as dangerous goods.

| | |
|---|---|
| **14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not applicable. |

## SECTION 15: Regulatory information

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

**EU regulations**

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

| | |
|---|---|
| **Other regulations** | The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. |
| **National regulations** | Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended. |
| **15.2. Chemical safety assessment** | No Chemical Safety Assessment has been carried out. |

## SECTION 16: Other information

**List of abbreviations**

PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
MARPOL: International Convention for the Prevention of Pollution from Ships.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

| | |
|---|---|
| **References** | EPA: AQUIRE database<br>NLM: Hazardous Substances Data Base<br>US. IARC Monographs on Occupational Exposures to Chemical Agents |
| **Information on evaluation method leading to the classification of mixture** | The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. |
| **Full text of any H-statements not written out in full under Sections 2 to 15** | None. |
| **Training information** | Follow training instructions when handling this material. |

**Disclaimer**

Laird cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.