



# Guidelines for tattoo and permanent makeup substances



**New Zealanders are actively obtaining tattoos and permanent makeup, with one in three New Zealanders under 30 reportedly having a tattoo. This increase in popularity, combined with an increase in reports of adverse reactions, has led to concerns being raised about the safety of tattooing practices, tattoo inks and permanent makeup.**

The risks from tattoos and permanent makeup come from both the chemical composition of the ink used and infection caused by unsafe practices. These risks are managed by the Environmental Protection Authority (EPA) and the Ministry of Health respectively.

The EPA recently developed a standard, the Tattoo and Permanent Makeup Substances Group Standard, to manage the chemical risks associated with tattoo and permanent makeup substances. The EPA has also prepared these guidelines which include a set of tables listing substances that tattoo inks should not contain. These tables are not mandatory, however they represent best practice guidance from the Council of Europe and the EPA recommends they be used to help prevent adverse effects. For the purpose of this document tattoo ink is used to refer to both tattoo and permanent makeup substances. For a full definition, please refer to the back page of this document, page 6.



## What does this document contain?

This guide outlines some of your responsibilities under the standard if you import or manufacture tattoo inks. It also provides:

- guidance on the substances that should be excluded from tattoo inks, and
- guidance on the maximum levels of impurities in tattoo inks.

This document should be read in conjunction with the full group standard, which can be viewed on the EPA website [www.epa.govt.nz](http://www.epa.govt.nz).

## What are the new rules?

Under the Hazardous Substances and New Organisms (HSNO) Act, all hazardous substances require an approval. For tattoo inks and permanent makeup substances, the approval is the Tattoo and Permanent Makeup Substances Group Standard. This standard sets out the rules and conditions that manage these substances.

## What are my responsibilities as an importer or supplier?

### Your products should comply with the standard

The standard allows tattoo inks that have certain types of hazardous properties (see *How do I know if it's hazardous?*). You should make sure that any product you import or supply fits within the standard.

To do this, you need to check that your product has only the hazardous properties allowed by the standard. If the formulation of the product changes, you will need to check that it still fits within the standard.

If the product fits within the standard it is automatically approved and the conditions set out in the standard must be followed. You need to keep a record of how you determined that your product fits within the standard. If you are having difficulty working out whether your product fits within the standard, you can request a Status of Substance determination from the EPA. There is a fee for this service.

### You must provide a safety data sheet

You must provide a compliant safety data sheet with any product that is being sold or supplied to a workplace.

### What labelling do I need?

Tattoo and permanent makeup substances must always be sold in labelled containers. The label must include the product name, the batch number or other reference used by the manufacturer, and the contact information for the New Zealand importer, supplier or manufacturer. Any hazard warning statement must also be included (e.g. HARMFUL IF SWALLOWED).

There must also be a list of ingredients provided on the label, on a separate package sold with the container that the substance is stored in, or on a separate leaflet.

### What containers do I need?

Make sure that all tattoo and permanent makeup substances you supply are packaged in suitable containers that don't leak. Containers holding less than 2.5 L or 2.5 kg of a substance that is toxic or can damage the eyes must also be in child resistant packaging.

## Advertising tattoo inks in places where the container cannot be inspected

If you are advertising tattoo inks where the ink container cannot be inspected, for example, over the internet, by mail order or in magazines or newspapers, you must include the hazard warning of the product in the text of the advertisement.

## How do I know if it's hazardous?

HSNO regulates substances based on the risks they may pose to people and the environment. The hazardous properties of a substance are classified to determine how the risks can be managed.

Most chemicals have more than one hazardous property and therefore have more than one classification.

In relation to human health, tattoo inks must not have any HSNO classifications that are not listed below:

---

6.1D or 6.1E – substances that may be harmful to people if they are exposed to significant amounts of the substance.

---

6.3A or 6.3B – substances that may cause irritation to the skin.

---

6.4A – substances that may cause irritation to the eye.

---

8.3A – substances that may cause permanent damage to the eye.

---

Any class 9 – substances that may cause damage to the environment if discharged to the air, land or water.

---

The classifications for your product will be listed in section 2 of the safety data sheet. They may be listed as HSNO numbers or Risk phrases (R-phrases). R-phrases are an equivalent classification system used overseas. The table below gives the HSNO number and corresponding R-phrase for the hazardous properties relating to human health allowed by the standard.

HSNO classification	R-phrase
6.1D	R20, R21, R22
6.1E	R37, R65
6.3A	R38
6.3B	No corresponding R-phrase
6.4A	R36
8.3A	R34, R35, R41
Any class 9 (i.e. 9.1A, 9.1B, 9.1C, 9.1D, 9.2A, 9.2B, 9.2C, 9.2D, 9.3A, 9.3B, 9.3C, 9.4A, 9.4B, 9.4C)	R50, R50/53, R51, R51/53, R52, R52/53, R53

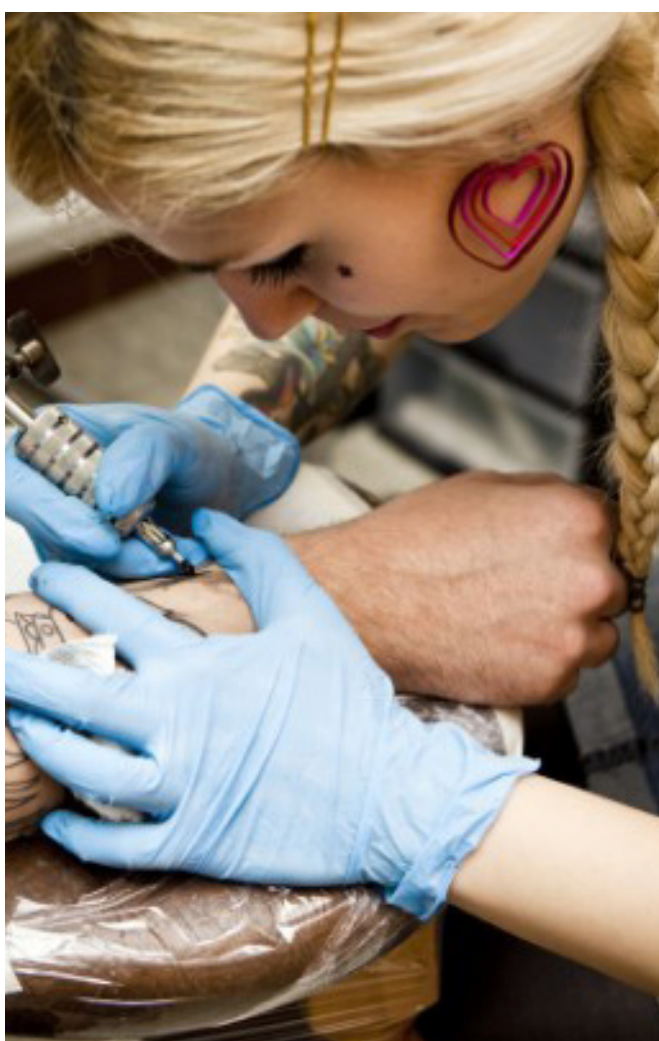
If your safety data sheet includes any HSNO classification or R-phrase that is not listed above, your product does not comply with the standard.

## Composition of tattoo and permanent makeup substances

There are a number of chemicals that the EPA recommends be excluded from tattoo inks to protect people's health. These chemicals are listed in Tables 1 and 2 (see Appendix 1) and represent best practice guidance from the Council of Europe.

The EPA also recommends that any tattoo inks used in New Zealand should not have levels of heavy metals and polycyclic aromatic hydrocarbons above the concentrations set out in Tables 3 and 4 (see Appendix 2). These recommendations are also based on recommendations from the Council of Europe.

If you are concerned that a product may not comply with these guidelines, we recommend that you have your product tested by an accredited laboratory. In New Zealand, laboratories are accredited by International Accreditation New Zealand (<http://www.ianz.govt.nz/>), who can provide you with contact details of accredited laboratories.



The EPA also recommends that the chemicals listed in Schedule 4 of the Cosmetic Products Group Standard, 2006 are excluded from tattoo inks. Additionally, any colouring agents listed in Schedule 6 of the Cosmetic Products Group Standard with the conditions: for use in a rinse-off cosmetic product only, not to be used in the vicinity of the eyes, or not to be used in products that come into contact with the mucous membranes; should also be excluded. These schedules can be found on the EPA website [www.epa.govt.nz](http://www.epa.govt.nz)

## What are my responsibilities as a tattooist?

### You should only buy products that fit within the standard

The group standard covers tattoo inks that have certain hazardous properties. The EPA recommends asking your supplier to confirm that the products you are buying fit within the standard. Any inks having hazardous properties that are not within the standard are not approved under the Tattoo and Permanent Makeup Group Standard.

You should also ask your supplier to confirm that the products they supply do not include the substances listed in Tables 1 and 2 (see Appendix 1), or levels of impurities above those listed in Tables 3 and 4 (see Appendix 2). Confirmation of this is usually provided by way of a certificate of analysis from an accredited laboratory.

Your supplier should also confirm that the ink does not contain any chemicals listed in Schedule 4 of the Cosmetic Products Group Standard, 2006; or any colouring agents listed in Schedule 6 of the Cosmetic Products Group Standard with the conditions: for use in a rinse-off cosmetic product only, not to be used in the vicinity of the eyes, or not to be used in products that come into contact with the mucous membranes.

### Ask for safety data sheets

Ask your supplier to give you a safety data sheet when you buy a tattoo ink for the first time. The safety data sheet will provide you with important safety information including first aid information and how to safely store the ink. All staff using the ink need to understand the information in the safety data sheet.

Keep your safety data sheets in a place where all staff can access them at all times.

### Label your containers

Make sure that your tattoo inks are always stored in labelled containers so that everyone knows what's in the container.



## Appendix 1:

### Components tattoo and permanent makeup substances should not contain

Please note:

- Only non-proprietary chemicals names are used.
- The CAS number is the Chemical Abstracts Service number.
- The EC number corresponds to either the European Inventory of Existing Commercial Chemical Substances (EINECS) numbers or the European List of Notified Chemical Substances (ELINCS) numbers or the registration number given under Regulation (EC) No 1907/2006.

**Table 1: Aromatic amines tattoo and permanent makeup substances should not contain or release:**

Ref no.	Substance	CAS number	EC number
1	6-amino-2-ethoxynaphthalene	293733-21-8	-
2	4-amino-3-fluorophenol	-	-
3	4-aminoazobenzene	60-09-3	-
4	o-aminoazotoluene	97-56-3	202-591-2
5	o-anisidine	90-04-4	201-963-1
6	Benzidine	92-87-5	202-199-1
7	Biphenyl-4-ylamine	92-67-1	202-177-1
8	4-chloroaniline	106-47-8	203-401-0
9	4-chloro-o-toluidine	95-69-2	202-411-6
10	3,3'-d-dichlorobenzidine	91-94-1	202-109-0
11	3,3'-dimethoxybenzidine	119-90-4	204-355-4
12	3,3'-dimethylbenzidine	119-93-7	204-358-0
13	6-methoxy-m-toluidine	120-71-8	204-419-1
14	4-methoxy-m-phenylenediamine	615-05-4	210-406-1
15	4,4'-methylenebis(2-chloroaniline)	101-14-4	202-918-9
16	4,4'-methylenedianiline	101-77-9	202-974-4
17	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8
18	4-methyl-m-phenylenediamine	95-80-7	202-453-1
19	2-naphtylamine	91-59-8	202-080-4
20	5-nitro-o-toluidine	99-55-8	202-765-8
21	4,4'-oxydianiline	101-80-4	202-977-0
22	Para-phenylenediamine	106-50-3	2003-404-7
23	4,4'-thiodianiline	139-65-1	205-370-9
24	o-toluidine	95-53-4	202-429-0
25	2,4,5-trimethylaniline	137-17-7	205-282-0
26	2,6-xylidine	87-62-7	-
27	2,4-xylidine	95-68-1	-

**Table 2: Colouring agents tattoo and permanent makeup substances should not contain:**

Ref No.	Substance name	CAS number	CI Number
1	Acid Green 16	12768-78-4	44025
2	Acid Red 26	3761-53-3	16150
3	Acid Violet 17	4129-84-4	42650
4	Acid Violet 49	1694-09-3	42640
5	Acid Yellow 36	587-98-4	13065
6	Basic Blue 7	2390-60-5	42595
7	Basic Green 1	633-03-4	42040
8	Basic Red 1	989-38-8	45160
9	Basic Red 9	569-61-9	42500
10	Basic Violet 1	8004-87-3	42535
11	Basic Violet 10	81-88-9	45170
12	Basic Violet 3	548-62-9	42555
13	Disperse Blue 1	2475-45-8	64500
14	Disperse Blue 106	12223-01-7	-
15	Disperse Blue 124	61951-51-7	-
16	Disperse Blue 3	2475-46-9	61505
17	Disperse Blue 35	12222-75-2	
18	Disperse Orange 3	730-40-5	11005
19	Disperse Orange 37	12223-33-5	-
20	Disperse Red 1	2872-52-8	11110
21	Disperse Red 17	3179-89-3	11210
22	Disperse Yellow 3	2832-40-8	11855
23	Disperse Yellow 9	6373-73-5	10375
24	Pigment Orange 5	3468-63-1	12075
25	Pigment Red 53	2092-56-0	15585
26	Pigment Violet 3	1325-82-2	42535:2
27	Pigment Violet 39	64070-98-0	42555:2
28	Solvent Blue 35	17354-14-2	61554
29	Solvent Orange 7	3118-97-6	12140
30	Solvent Red 24	85-83-6	26105
31	Solvent Red 49	509-34-2	45170:1
32	Solvent Violet 9	467-63-0	42555:1
33	Solvent Yellow 1	60-09-3	11000
34	Solvent Yellow 2	60-11-7	11020
35	Solvent Yellow 3	97-56-3	11160

## Appendix 2:

### Maximum concentrations of heavy metals and polycyclic aromatic hydrocarbons

**Table 3: Maximum concentrations of heavy metals in tattoo and permanent makeup substances:**

Element or compound	ppm
Arsenic (As)	2
Barium (Ba)	50
Cadmium (Cd)	0.2
Cobalt (Co)	25
Chromium (Cr) (VI)♦	0.2
Copper (Cu) soluble☆	25
Mercury (Hg)	0.2
Nickel (Ni)✕	As low as technically achievable
Lead (Pb)	2
Selenium (Se)	2
Antimony (Sb)	2
Tin (Sn)	50
Zinc (Zn)	50

- ♦ The presence of traces of chromium (VI) in tattoo and permanent makeup substances should be mentioned on the package together with a warning such as “Contains chromium. Can cause allergic reactions.”
- ☆ Soluble copper should be determined after extraction to an aqueous solution with pH 5.5.
- ✕ The presence of traces of nickel in tattoo and permanent makeup substances should be mentioned on the package together with a warning such as “Contains Nickel. Can cause allergic reactions.”

**Table 4: Maximum concentrations of polycyclic aromatic hydrocarbons in tattoo and permanent makeup substances:**

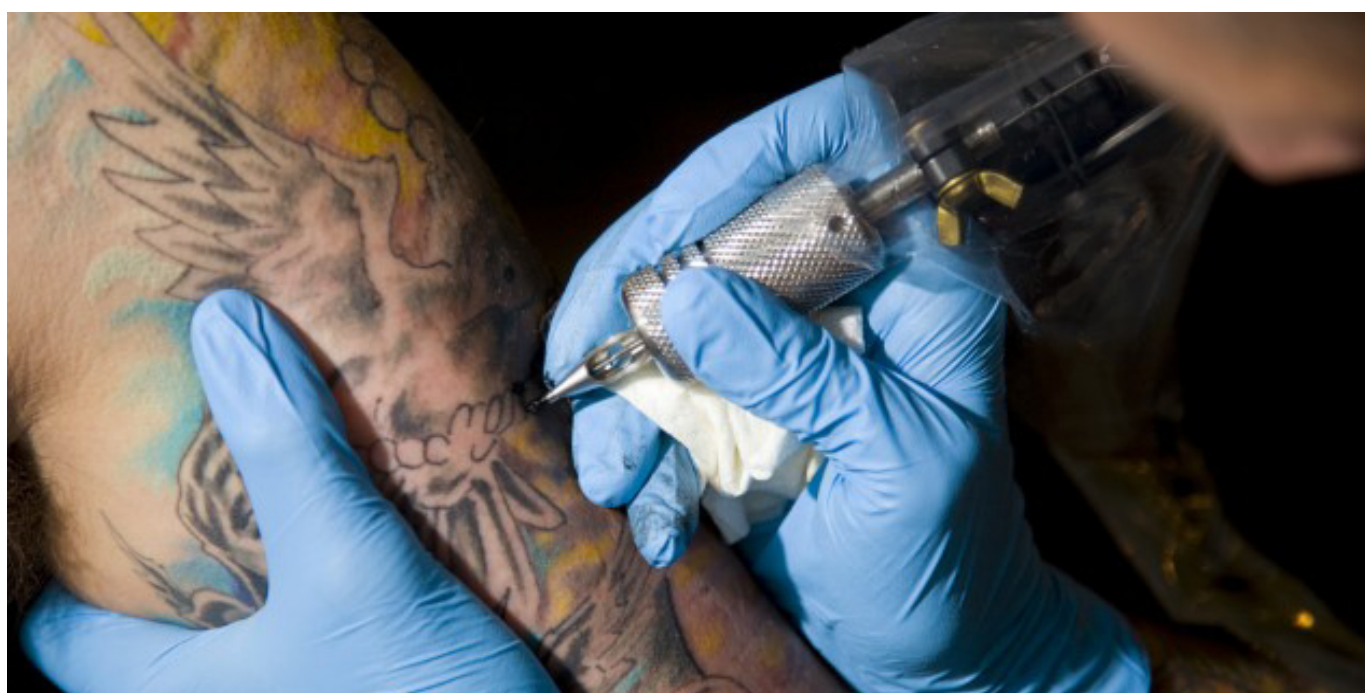
Element or compound	ppm
Polycyclic aromatic hydrocarbons	0.5
Benzo[a]pyrene	0.005

### Risks from infection

The greatest danger from tattooing and the application of permanent makeup is the transmission of infection between a tattooist and their client, or between clients.

Needles and other sharp instruments that are used to penetrate the skin will become contaminated by blood. The blood may be infected with a variety of blood-borne viruses and bacteria. Viruses such as hepatitis C, hepatitis B and HIV and common bacteria such as *Staphylococcus* can be transmitted when contaminated instruments penetrate the skin.

The Ministry of Health provides guidance on the safe piercing of skin and tattooing. It can be found on the Ministry's website [www.health.govt.nz](http://www.health.govt.nz)



## Definition

Tattoo inks means all tattoo and permanent makeup substances. Permanent makeup substance means a substance injected into human skin for the purposes of enhancing the contours of the face, or for masking a spot or blemish on any part of the body to restore the skin's natural appearance. Tattoo substance means any substance or preparation intended to be injected into the human skin to impart a skin marking or design.



## Contact Us

Please contact the EPA Hazardous Substances Information line on 0800 376 234 for further information about tattoo inks or permanent make up substances.

If you would like information relating to the risk of infection from tattooing, please contact the Ministry of Health [www.health.govt.nz](http://www.health.govt.nz)

